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THE JOURNAL

OF THE

American Medical Association

Subscription, $8.00 | PUBLISHED WEEKLY | Single Copies, 25 Cents

VOLUME 112, No. 24

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535 North Dearborn Street, Chicago, Ill.

JUNE 17, 1939

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Prepare for "American Boards"

According to the Council on Medical Education and Hospitals of the American Medical Association a physician who wishes to qualify for certification as a specialist must first take the examination prescribed and conducted by the American Board of that particular specialty.

In our desire to aid physicians in preparing for these examinations we list on pages 3, 4 and 5 of this issue of The Journal 53 of our books that cover the various specialties and contain information that will prove invaluable to candidates for certification.

These books are by authorities. They are up-to-date. Their subjects are logically and systematically presented. They cover both the basic and the clinical divisions of medicine, surgery and the specialties. These authors, themselves specialists, know the qualifications a specialist should have; and they therefore have put into their respective books that information which will undoubtedly be of great help in meeting the certification requirements of the various American Boards.

We, therefore, suggest that you turn now to Saunders advertisement on pages 3, 4 and 5 and select those books you wish us to send you. For your convenience this list of 53 books is classified by subjects.

See List of SAUNDERS BOOKS on Pages 3, 4, 5

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THE JOURNAL of the American Medical Association is published weekly by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Subscription price, $8.00 a year. 25c a copy. Canadian $9.50. Foreign $12.00. Entered as second class matter June 25, 1885, at the Postoffice at Chicago, Ill., under Act of March 3, 1879.

The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. 112, No. 24 — COPYRIGHT, 1939, BY AMERICAN MEDICAL ASSOCIATION — CHICAGO, ILLINOIS — JUNE 17, 1939

FACTORS TENDING TO MINIMIZE THE PROSTATECTOMY HAZARD

WITH PARTICULAR REFERENCE TO WOUND ASEPSIS

EDWIN DAVIS, M.D.

OMAHA

The average person has a natural dread of prostatectomy. In fact the average physician or general surgeon has no real conception of the safety with which this procedure may be carried out via the perineal route with sacral block anesthesia. I presume to carry this statement even further by suggesting that probably only relatively few in a select audience of urologic surgeons have a full realization of the opportunity for precision and accuracy which this procedure affords and realize that almost complete elimination of surgical hazard has become possible.

Mortality figures may be mentioned merely as a matter of record and with no purpose other than to emphasize the possibilities resulting from systematic elimination of the various hazards. My own mortality rate for perineal prostatectomy in a series of cases previously reported on a number of occasions and now totaling 741 is 2.7 per cent. Every postprostatectomy death, from any cause whatever, prior to dismissal from the hospital has been counted. This record includes two consecutive series, totaling 121 and 107 respectively, each without a single death. There has been but one death in the last 144 consecutive cases. Others, particularly Young,[1] Hinman [2] and Cecil,[3] have reported comparable figures, in fact better figures. There is no reason why a limited few should have a monopoly on perineal prostatectomy, since the technic may be mastered by any one with moderate skill and sufficient determination and patience. Young [1] has mentioned that four successive residents at the James Buchanan Brady Urological Institute of Johns Hopkins Hospital performed 190 consecutive prostatectomies on unselected patients from public wards with only three deaths (1.5 per cent).

Amazing though this statement may seem, there is no reason why the mortality rate of perineal prostatectomy in the aged and debilitated should not be made to compare favorably with that of herniotomy in the young and robust.

My present purpose is to enumerate and to discuss briefly the various factors which are responsible for this conspicuously low mortality rate and which have placed perineal prostatectomy in the category of so-called finished operations. This term seems permissible because (1) the mortality rate so closely approximates the "normal" death rate [4] for the age of 70 and because (2) questionnaire records [5] show that, of aged persons, many of whom have unrelated ailments and symptoms which might readily be confused, 82.3 per cent voluntarily classify themselves as "well" and 98.8 per cent as "well or improved."

The lowering of the mortality rate has been essentially a process of elimination of the various hazards one by one. The chief hazards, together with the "remedy" or method of control of each, are listed in the accompanying table.

UREMIA

As known by every one (but ignored by many), the answer to the uremia question is preoperative drainage by retention catheter or via the suprapubic route for days, weeks or many months, insistently and inexorably carried out, for as long as may be necessary, regardless of urging to the contrary by patient, relatives or physician. The surgeon has but few privileges, but one of these is to decline to operate. The necessity for adequate drainage is too well understood to require further comment. One might as well seriously discuss the advisability of hemostasis. There is little excuse for deaths due to postprostatectomy uremia.

INFECTION

A brief discussion of postprostatectomy sepsis, together with the presentation of a method tending to decrease this hazard, is the chief occasion for this paper.

Prostatectomy without infection of the urinary tract is impossible. In fact a period of fever during the time of preliminary drainage is decidedly the rule rather than the exception and is to be welcomed because of the immunity supposedly conferred. At any rate, high postoperative temperature reactions are relatively far more frequent among those who have not gone through a period of preoperative fever. Time and the natural processes of immunity, with the aid of free dependent drainage, tend automatically to take care of such infections of the urinary tract. In fact except in the debilitated and patients with additional lesions of the urinary tract, gross pyuria ordinarily disappears spontaneously several weeks after perineal prostatectomy.

Read before the fiftieth annual meeting of the American Association of Genito-Urinary Surgeons, Absecon, N. J., May 4, 1938.

1. Young, H. H.: Surgical Treatment of Prostate, J. A. M. A. **110:** 280 (Jan. 22) 1938.
2. Hinman, Frank: The Modern Operation of Plastic Perineal Prostatectomy, Tr. Am. A. Genito-Urin. Surgeons **30:** 265, 1937.
3. Cecil, A. B.: Preoperative Treatment of Prostatic Obstruction, Surg., Gynec. & Obst. **58:** 630 (March) 1934.
4. According to the American experience tables of mortality, of 100 persons alive at the age of 70, six may be expected to die before reaching 71. Carrying this comparison to its extreme in absurdity, if the period of hospitalization for prostatectomy was one year, the "normal" death rate might be said to be more than twice the postprostatectomy death rate.
5. Davis, Edwin: Analysis of Results in 378 Consecutive Cases of Perineal Prostatectomy, Tr. Am. A. Genito-Urin. Surgeons **24:** 387, 1931.

Postprostatectomy systemic infection, however, is a different matter. I refer to the occasional occurrence of postoperative invasion of the blood stream, characterized by chills, a high temperature and evidence of sepsis, and have in mind three postprostatectomy deaths in my own series directly attributable to this cause. Were evidence of invasion of the blood stream

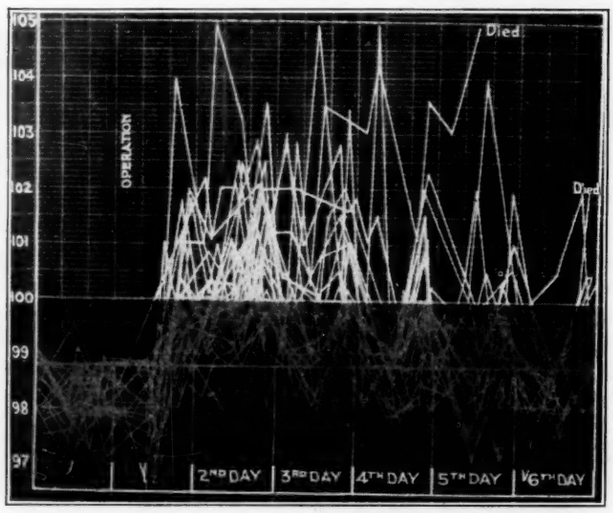

Chart 1.—Temperature reaction following perineal prostatectomy, demonstrated by superimposed temperature curves from twenty-five consecutive cases. In order to make the elevations more conspicuous, the portion of the rulings below the 100 F. line has been blurred. Note the great excess of rulings above the 100 F. line as contrasted with chart 2. Note also the conspicuous absence of rulings below the 99 F. line on the second postoperative day.

necessary, it might be stated that one of these patients had multiple small staphylococcic abscesses distributed over the trunk and extremities.

Since the assumption seemed permissible that such systemic reactions are due to the liberation of virulent bacteria into fresh "unvaccinated" tissues, an attempt at wound antisepsis during operation was considered to be worth the effort. A routine surgical technic was adopted, including irrigation of the urethra and bladder with a 2 per cent mercurochrome, alcohol and acetone solution [6] immediately before incision and flooding of the wound with the same solution immediately before closure. Wound sterilization was not expected, but wound antisepsis, with a consequent decrease in numbers and virulence, or in the "dose" of bacteria to which fresh tissues were exposed, was hoped for. The use of this technic was started in January 1932, as suggested by Harris,[7] who had previously reported favorably on a similar technic as applied to suprapubic prostatectomy.

If the assumption is permitted that the temperature is a reliable index of the degree of sepsis, it may be said that this technic has given distinctly beneficial results. Moreover, there have been no more deaths directly attributable to sepsis, such as had previously occurred. This improvement may be graphically demonstrated. Charts 1 and 2 represent the superimposed temperature curves of the first postoperative week in two series of twenty-five consecutive cases of perineal prostatectomy, immediately before and immediately after the adoption of the new technic. For the purpose of clearer demonstration, the portion of each chart below 100 F. has been purposely blurred, thus rendering the elevations relatively more conspicuous. In chart 1, representing the temperature curves prior to the adoption of the new technic, the excess of lines above the 100 F. level (as compared with chart 2) is too conspicuous to require further comment.

Chart 3 represents an arithmetical rather than a graphic demonstration that the mercurochrome technic has resulted in a flattening of the average postprostatectomy temperature curve. The two curves represent an accurate portrayal of the average temperature reactions of the two series of twenty-five patients (before and after use of the new technic) during the first postoperative week. The method of computing was merely to average the maximum daily temperature of each of the twenty-five patients. The difference between the two curves is too striking to be ignored. Whereas the average maximum postprostatectomy temperature before the use of the mercurochrome technic was 101.5 F., the average maximum temperature after the institution of the new technic was only 100.2 F. It may be stated that the maximum elevation occurs on the day following the operation.

Factors Tending to Minimize the Various Prostatectomy Hazards

Hazard	Minimized by
Uremia	Preoperative drainage
Infection	Oral and wound antisepsis; dependent drainage
Immediate hemorrhage	Perineal hemostatic bag; visualization of field and suture ligature
Delayed hemorrhage	Endoscopic fulguration; oral and wound antisepsis
Anesthesia	Sacral block method; avoidance of veins
Abdominal distention	Perineal route
Postoperative "shock"	Perineal route; sacral block anesthesia
Epididymitis	Vasectomy preceding preliminary drainage
Vascular "accidents"	(Prayer)

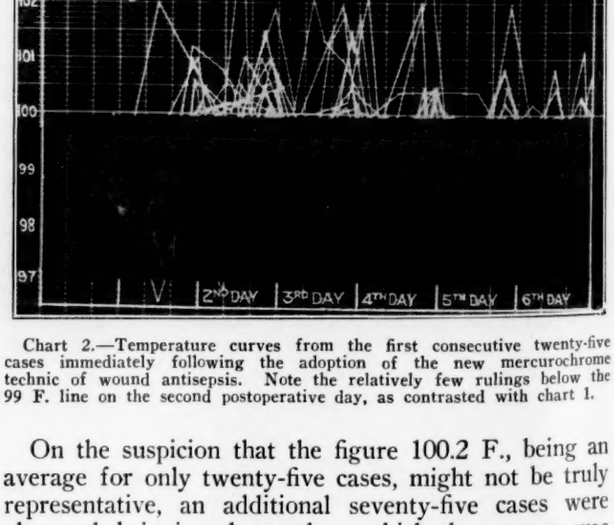

Chart 2.—Temperature curves from the first consecutive twenty-five cases immediately following the adoption of the new mercurochrome technic of wound antisepsis. Note the relatively few rulings below the 99 F. line on the second postoperative day, as contrasted with chart 1.

On the suspicion that the figure 100.2 F., being an average for only twenty-five cases, might not be truly representative, an additional seventy-five cases were observed, bringing the total on which the average was based to 100. The average maximum postprostatectomy temperature was then found to be 100.6 F. rather than 100.2 F. Considering the large number of consecutive cases entering into this tabulation, there can be no question as to the accuracy of the figure.

6. Scott, W. W., and Hill, Justina H.: Presentation of a Preoperative Skin Disinfectant, an Alcohol-Acetone Aqueous Solution of Mercurochrome, J. Urol. **14:** 135 (Aug.) 1925.

7. Harris, Augustus: The Prevention of Infections in Prostatectomy, Am. J. Surg. **14:** 480 (Nov.) 1931.

Without undue enthusiasm, it seems permissible to state that any method of wound antisepsis causing a flattening of the postprostatectomy temperature curve may be regarded as another factor tending to lessen the hazard of prostatectomy. This preliminary report is purely tentative. It is possible that another drug or a variation of the technic here suggested might be far more efficient. It is likewise true that a modification of this method might be applicable in other surgical fields.

IMMEDIATE HEMORRHAGE

A combined hemostatic and drainage bag for perineal prostatectomy was presented in 1927.[8] This bag proved effectual in all but four cases of 741 (99.5 per cent), occurring early in the series, in which emergency suprapubic cystotomy, with suture ligature, became necessary. There was one death directly attributable to hemorrhage. Later in the series it gradually became apparent that additional time and effort devoted to suture-ligature through the perineal incision, at the time of operation, tend to eliminate even this small percentage of hemorrhage. There is no reason why hemostasis need be left to chance, even in the slightest degree. The patient is comfortable and free from pain and there is no necessity for haste. As repeatedly observed through the perineal incision, such arterial bleeding as there may be comes chiefly from tissues underneath the "floor" of the bladder, immediately adjacent to the orifice. The main spurters tend to have an anterior rather than a posterior location and tend to occupy approximately "10 o'clock and 2 o'clock" positions with respect to the vesical orifice. The inflated bag within the bladder being used as a tractor, the bladder neck may be pulled down and the under surface clearly visualized and made accessible. Each portion of the under surface of the bladder neck may be inspected in turn by varying the direction of the traction on the hemostatic bag. An excellent opportunity for visualization and suture-ligation of spurters is thus afforded, after which a "pucker" suture is placed on each side, compressing the relaxed tissues of the two lateral cavities and closing the capsule. This technic practically eliminates the immediate hazard of postprostatectomy hemorrhage.

DELAYED HEMORRHAGE

In 1932 I[9] called attention to an "epidemic" of delayed massive postprostatectomy hemorrhage, occurring from the tenth to the twenty-sixth postprostatectomy day, and suggested an explanation on the basis of a specific infection, including in my paper a method of control consisting of endoscopic aspiration of clots followed by location and fulguration of the bleeding point. The work on which this communication was based preceded the advent of endoscopic prostatic resection by a number of years. The "epidemic" consisted of the amazing number of five cases of delayed massive hemorrhage, in thirteen consecutive cases of prostatectomy, three of these in direct succession, as contrasted with only ten cases of delayed hemorrhage in the preceding 410 cases of prostatectomy, thus permitting no conclusion as to cause other than that the basis was a specific infection. This complication has not been subsequently observed over a period of years, and it may well be that the technic of wound antisepsis described has been a factor in its control. It may also be that one of the newer internal urinary antiseptics (mandelic acid or sulfanilamide) will prove to be of value in this respect. At any rate, it may be conservatively stated that wound antisepsis and endoscopic fulguration have eliminated the real hazard connected with delayed hemorrhage.

ANESTHESIA

The sacral block method, described as applied to perineal prostatectomy in 1922 by Crowell and Thomson,[10] has given complete satisfaction throughout the years and leaves nothing to be desired. There have been no deaths attributable to the anesthesia, no complications and no sequelae. In 1931 I[11] referred to the

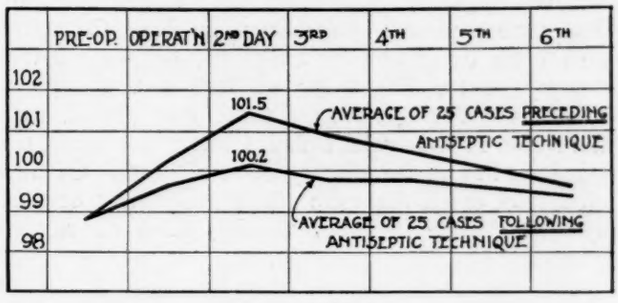

Chart 3.—The average maximum daily elevation of temperature in two series of twenty-five cases of perineal prostatectomy observed before and after the adoption of the mercurochrome technic of wound antisepsis.

"infallibility" of the sacral block method, reporting a series of 229 consecutive cases without a single failure in anesthesia. This number has since been increased to 592, still without a failure. Sacral block anesthesia for perineal prostatectomy, properly achieved, is literally infallible. Moreover, adequate time, permitting deliberateness in hemostasis, is afforded. I consider the sacral block method ideal for the specific purpose of perineal prostatectomy.

OTHER COMPLICATIONS

Abdominal Distention.—This postoperative complication, so frequently the cause of distress and calamity following abdominal or suprapubic incisions, is conspicuously absent with the perineal approach to the prostate. There was only one case in the entire series in which abdominal distention occasioned any real trouble.

Postoperative "Shock."—This term is here loosely employed to designate that condition of semiconsciousness or unconsciousness, together with lowered blood pressure and increased pulse rate, in which the patient is returned to his room after many (if not most) major operations. When the perineal approach to the prostate is used, with sacral block anesthesia, the patient returns to his room in the condition with respect to color and general appearance which preceded the operation. I have frequently observed an elderly patient reading or writing the morning of the operation. Whatever "shock" may be, this condition is conspicuously absent after use of the sacral block method and the perineal approach.

8. Davis, Edwin: Distensible Bag for Hemostasis and Drainage Following Perineal Prostatectomy, J. Urol. **18**: 201 (Aug.) 1927.
9. Davis, Edwin: Massive Secondary Postprostatectomy Hemorrhage Controlled by Endoscopic Fulguration, J. Urol. **28**: 365 (Sept.) 1932.
10. Crowell, A. J., and Thomson, R.: Sacral Anesthesia in Perineal Prostatectomy, J. Urol. **8**: 81 (July) 1922.
11. Davis, Edwin: Sacral Block Anesthesia in Perineal Prostatectomy: Its Infallibility When Accurately Administered, J. A. M. A. **97**: 1771 (Dec. 12) 1931.

Epididymitis.—Suppurative epididymitis, with chills, fever and sepsis, occurring as late as (or later than) the third postoperative week, was frequently a far more serious matter than the prostatectomy. Routine local infiltration vasectomy, performed at the beginning of preliminary drainage, has practically eliminated epididymitis.

Vascular "Accidents."—Such occurrences as cerebral or coronary thrombosis or pulmonary embolus suddenly interrupting an otherwise smooth convalescence are not to be anticipated, and there is but little to be done by way of prevention. They must be left largely to chance and "prayer." Fortunately, such accidents are rare. It is likely that many cerebral and coronary affairs are coincidental occurrences, wholly unrelated to the operation, and might well have taken place without operation. The same applies to pulmonary embolus. Of thirty-nine cases of pulmonary embolism, demonstrated by autopsy at the University of Nebraska College of Medicine [12] during a recent three year period, there were nine in which the embolus was massive and was considered to be the primary cause of death. Of these nine fatal cases, six were either postpartum or postoperative, while in the remaining three no surgical procedure had been employed.

CONCLUSIONS

Wound antisepsis with mercurochrome during perineal prostatectomy tends to flatten out the postoperative temperature curve and therefore may be presumed to lessen the hazard of infection.

Of the various hazards of perineal prostatectomy, including uremia, infection, hemorrhage (immediate and delayed), complications due to the anesthesia, epididymitis and vascular "accidents," all but the last named are controllable and have been reduced to a negligible minimum.

As determined by a tabulation of the maximum daily postoperative elevations of temperature occurring in 100 consecutive cases of perineal prostatectomy, the average maximum elevation (which occurs on the day following operation) is only 100.6 F.

1436 Medical Arts Building.

12. Birge, Richard: The Problem of Pulmonary Embolism, Senior Thesis, University of Nebraska College of Medicine, 1935.

Clinical Observation and the Experimental Method.—Progress in medicine can be followed historically along two main lines. The first is that traced from Hippocrates through Sydenham; it is the method of observation, and it has given us our descriptions of disease. The capacity of clinical observation to separate and define diseases was greatly enforced by the work of the famous morbid anatomists; the combined observations laid the foundations of modern clinical medicine. Laennec and Skoda, exponents of tested methods of physical examination; Bright, Hodgkin, Corrigan, Addison, who so ably identified and described individual diseases—these names but exemplify that most brilliant period of clinical activity, which was at its height in the earlier years of last century. The second line of progress has been by the experimental method, using this word in its broadest sense; it is exemplified in the physiological field by the work of the physician Harvey and by Claude Bernard; in the bacteriological field by Pasteur and Koch. While the methods of pure observation have long since passed their period of greatest activity, the experimental method continues to display amazing progress and growth.—Lewis, Sir Thomas: Research in Medicine and Other Addresses, London, H. K. Lewis & Co., Ltd., 1939.

THE CRITERIA OF EFFECTIVE TREATMENT IN MULTIPLE SCLEROSIS

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Multiple sclerosis is often referred to as a rare and mysterious disease. It is probably neither. In the five years from 1931 to 1935 the diagnosis of multiple sclerosis was made for 204 new patients admitted to the Boston City Hospital (approximately 1,800 beds). The corresponding figure for poliomyelitis during the same years was 100, for encephalitis 101 and for proved subacute bacterial endocarditis fifty. In evaluating these statistics it should be noted that no particular effort was being made to bring patients with multiple sclerosis into the hospital for study, as the investigation of multiple sclerosis was being carried out on purely experimental lines and no form of special treatment was being offered. The Boston City Hospital is one of the few hospitals in Boston to which patients with poliomyelitis in the early stage are admitted. While the statistical value of the figure given is open to question, it is obvious that multiple sclerosis presents an important medical and economic problem.

GENERAL PROGNOSIS

The prognosis is usually considered unfavorable. Osler's textbook states that "ultimately, the patient, if not carried off by some intercurrent infection, becomes bedridden," and this perhaps epitomizes the standard opinion. Any treatment which is followed by improvement even in a small proportion of cases is therefore likely to be acclaimed with enthusiasm, especially by physicians with limited experience with the disease. Many different forms of therapy have been proposed and, since excellent results have been claimed for all of them and some are drastic and even dangerous, it seems worth while to make a survey of the results obtained.

STATISTICS

A signal service has been performed by Brickner,[1] who has compiled from the literature the recorded results of many forms of treatment, including the use of antiseptics such as arsenic, antimony, mercury and "germanin," heat and fever, special vaccines and serums, sympathectomy, quinine and even hypnotism, which was followed by success in one case.

From Brickner's table it is possible to prepare statistics on recovery, though rather crude ones. If one excludes all reports of one or two cases and includes only the series in which the actual number of patients treated and the actual number considered improved are definitely given, one arrives at a total of 1,407 cases reported, in 665, or 47.5 per cent, of which the patient was stated to have profited by his treatment. With a few forms of treatment, for example with the use of salicylates, nuclein, liver extract, lecithin given intraspinally and sympathectomy, 100 per cent of improvement was reported, but never in any series larger than eleven cases. Improvement was reported from various forms of fever treatment in 60 per cent of cases, from

Read at the graduate course for the College of Physicians, Boston, April 2, 1938.

From the Neurological Unit, Boston City Hospital, and the Department of Neurology, Harvard Medical School.

The investigations on which this report is based were financed mainly by the Multiple Sclerosis Fund of Harvard University.

1. Brickner, R. M.: A Critique of Therapy in Multiple Sclerosis, Bull. Neurol. Inst. New York 4: 665-698 (April) 1936.

roentgen treatment in 58 per cent, from quinine in 49 per cent, from fibrolysin in 48 per cent, from various arsphenamines in 45 per cent and from Purves-Stewart vaccine in 35 per cent. These are the only series large enough to have any pretensions to statistical value.

VARIOUS FORMS OF TREATMENT AT THE NEUROLOGICAL UNIT

It is probable that many of the reports summarized are optimistic. At the Neurological Unit my colleagues and I have had experience with a number of different forms of treatment. This clinic was the first, as far as I know, to utilize a high vitamin diet and injections of liver extract in cases of multiple sclerosis (1928-1930). About ten patients received this treatment; there was no tangible change in the status of any of them. Since then I have seen six patients who are subjectively better with vitamin therapy, but they have not been protected against relapses. We came dangerously near to being enthusiastic over the results of forced spinal drainage, but when we reviewed the twelve cases in which it was used, it was obvious that no permanent improvement had been effected. I have seen ten patients and the brain of an eleventh who have had fever treatment. None of them were subjectively or functionally improved; indeed all but one of the surviving patients considered themselves worse. Arsphenamine, "germanin," typhoid vaccine, quinine, amphetamine (benzedrine) and various other medications have been used in the wards and outpatient department uniformly without success. In eight of thirteen instances in which infections (such as furuncles, infected teeth, sinusitis, cellulitis and cystitis) were found, improvement accompanied the surgical treatment or natural subsidence of the infection.

Even when all these figures are taken together, they are founded on too small a series to be of more than suggestive value. A commission has been appointed by the American Neurological Association to observe and report on a far larger series.

THE COURSE WITHOUT TREATMENT

To evaluate even approximately the benefits of the various forms of therapy so far proposed, it is important to review the natural course of the disease. Unfortunately, few untreated patients have been the objects of such intensive observation as those undergoing treatment.

A survey of the records of 516 patients receiving no systematic treatment has recently been made by von Hoesslin [2] from the hospitals of Munich. He pointed out that the prognosis in multiple sclerosis is by no means as hopeless as many textbooks would lead one to believe. Substantial remissions, so complete that the patients considered themselves practically well, occurred in ninety-two (or over 17 per cent) of his cases. In twelve the remission lasted from fourteen to forty-three years.

The proportion of recovery in a group of 133 patients representing 1,093 "patient years" of the disease followed and analyzed from this point of view by Dr. Madelaine Brown and me [3] gave comparable results. Twenty-seven patients were working (20 per cent), sixty-three were ambulatory (47 per cent), twenty were helpless (15 per cent) and sixteen were dead.

Such statistics are of little value for comparison with those given for the effects of treatment. In attempting to find some possible common basis we determined to study the outcome of the first symptom observed in each case. It is likely that the first symptom is often due to a single lesion, perhaps to the only lesion, and, further, that subsequent lesions are the result of the same process and should have a similar course. In fifty-eight, or 44 per cent, of 133 cases studied the first symptom entirely cleared up, as far as the patient was aware. In an additional thirty-four cases, remission or alleviation of symptoms was reported at some time during the course of the disease. Of 550 separate complaints found in the 133 histories, 274 were reported to have been alleviated spontaneously. The accompanying table gives the incidence of recovery from the various types of symptoms. In general, isolated symptoms were found to be more prone to alleviation than the same symptoms occurring in a group. It appears that those presumably due to small lesions usually disappear promptly, while lesions apparently affecting larger areas are apt to leave more or less permanent residuals or at best to heal so slowly that it is difficult to say when recovery has occurred.

Fig. 1.—"Encephalitic" reaction in an acute extension of an old sclerotic plaque. Masson stain, high power enlargement.

The length of time required for recovery is variable. Two patients accurately described a central scotoma lasting only a few hours. About five mentioned attacks of diplopia lasting only a day or two. At the other end of the scale, one patient was bedridden, with dizziness, scotomas, paraplegia and ataxia for six years and then substantially recovered and has led an active life since.

In going over history after history, one receives the unescapable impression of a constant ebb and flow of symptoms. Even in the cases of chronic progressive sclerosis, which make up some 17 per cent of all, the progression is rarely uniform and relentless, like that of a tumor, but is usually broken by quiescent periods.

THE COURSE OF INDIVIDUAL LESIONS

It is further possible to find a correlation between the natural history of various symptoms and the histologic picture of different types of plaques. In practically every case of multiple sclerosis in which a careful examination is made (a survey has been made in this laboratory of about 3,000 slides from some thirty cases) new lesions as well as old ones will be found. The fresh ones are characterized by edema and symptomatic inflammation (fig. 1). In older ones, myelin has become phagocytized and the surviving axis cylinders—almost

2. Von Hoesslin, Rudolf: Ueber multiple Sklerose: Exogene Aetiologie, Pathogenese und Verlauf, Munich, J. F. Lehmanns Verlag, 1934.
3. Putnam, T. J., and Brown, Madelaine R.: On Remissions in Multiple Sclerosis, Arch. Neurol. & Psychiat., to be published.

invariably found reduced in number if properly examined and sometimes reduced to an insignificant remnant—have regained a normal appearance and presumably normal function.[4] It is common to find evidence of activity about the edges of large old lesions (fig. 2). Thus one finds that a healing process is constantly going on but often intermingled with an intermittent process of acute destruction, exactly as one might expect from a consideration of clinical symptoms.

THE POSSIBLE EFFECT OF TREATMENT ON LESIONS AND SYMPTOMS

From the appearance of the old lesions, as they are seen in case after case, there appears to be little hope that any form of treatment will cause axis cylinders to grow again, myelin to reform or glial scars to resolve. The damage is done; the tissue is sometimes as devoid of parenchymal elements as infarcts of comparable size.

It is difficult to escape the conviction that the same is true of the acute lesions also if one makes a detailed study of the steps of the reaction. The damage to axis cylinders, which are after all the essential functioning elements, is already extensive in the earliest plaques one can find. Figure 3 shows one probably not over a week old, as determined by the history of the case and the method of timing histologic reactions worked out by Alexander and Newbill.[5] There is more apparent damage to axis cylinders than in many older plaques. From this stage on, barring infections elsewhere or poor nutrition, some healing is inevitable and the duration and extent of the lesion determined.

Principal Symptoms in 133 Cases of Multiple Sclerosis (Putnam and Brown [3])

	As First Symptom		As Subsequent Symptom	
	Total	Alleviated	Total	Alleviated
Paraplegia	19	9	70	22
Ataxia, tremor	23	10	44	15
Monoplegia	24	13	33	18
Scotoma	20	16	32	20
Numbness of one extremity	20	15	26	13
Bladder symptoms	6	4	39	15
Diplopia	18	12	24	14
Numbness of both legs	7	5	19	15
Speech defect	2	2	22	4
Mental deterioration	2	0	16	1
Hemiparesis	6	3	11	5
Pain (radicular)	1	0	13	5
Hemianesthesia	5	4	4	4

If the lesions run their course irrespective of treatment, it is no wonder that the symptoms they produce should do the same. If one assumes, as seems reasonable, that patients usually seek a new form of treatment when a new lesion occurs and that 44 per cent of fresh lesions are capable of a complete functional recovery, it is perhaps not remarkable that 47.5 per cent of patients given treatment of any kind have been reported to show some improvement. Sometimes the benefit reported to follow the therapeutic experiments previously summarized has been slight or wholly subjective; sometimes it followed the treatment by a year or more, and in many instances it was obviously temporary. Both pathologic data and statistical studies should make one cautious in accepting symptomatic improvement as evidence of the success of specific treatment. The criterion of successful therapy should be in the prevention of relapses.

4. Putnam, T. J.: Studies in Multiple Sclerosis: VIII. Etiologic Factors in Multiple Sclerosis, Ann. Int. Med. **9**: 854-863, 1936; also material in preparation.

5. Alexander, Leo, and Newbill, P.: Time Determination of Histopathologic Lesions in Central Nervous System, to be published.

POSSIBLE CAUSES OF UNDUE OPTIMISM WITH REGARD TO TREATMENT

In making the criticism that optimism is often unfounded, it is far from my purpose to suggest any lack of sincerity on the part of the sponsors of new methods of therapy. It is a callous man who does not feel moved to make the attempt to alleviate the miserable condition of patients incapacitated by multiple sclerosis or to avert the disaster which hangs over those mildly afflicted. As long as doctors are ignorant of the nature of the underlying process, it is only natural that they should turn to treatments which are effective for other conditions with similar symptoms, such as neurosyphilis. The textbook picture of the course of multiple sclerosis is founded on late chronic involvement, but with modern methods of diagnosis, earlier and more benign forms are recognized and the physician is encouraged if the downward progress is found to be slow. Few forms of treatment are given to bedridden patients, and statistics tend to become artificially loaded with cases of fresh, remittent sclerosis. This is clearly shown in the present series; of thirty-eight patients seen in office practice, sixteen were working, thirty-six were ambulatory and none have died; while of ninety-five patients seen in the wards during approximately the same period, only twenty-seven were ambulatory, eighteen were helpless and seventeen have died.

There is apt to be a complementary tendency to fallacy on the patient's side. The invalid who is confined to a hospital for chronic diseases does not shop for treatment; the ambulant sufferer threatened with incapacity is likely to. The euphoria of patients with multiple sclerosis is well recognized. I remember one who was brought in a wheel chair week after week for ultraviolet irradiation over a period of years until he became bedridden, each time stating for the record that he was better. Encouragement definitely alleviates the disease, if only temporarily, and it is a feature which is common to all treatments. Even though the degree of recovery is definitely limited by the destruction of axons, the doctor is not free from the responsibility of promoting healing. If he were dealing with a fracture or a wound on the surface of the body, he would insist on mechanical rest of the part, avoidance of infection, adequate measures against any existing anemia or dietary deficiency and, as far as possible, protection against worry.

In addition, the art of symptomatic treatment is worth cultivating. Some of the measures which are useful in relieving specific symptoms have been discussed in another publication.[6] Sometimes placebos have to be administered. Liver extract and bromides are well adapted to this purpose.

THE PREVENTION OF FRESH LESIONS

General Measures.—If lesions tend to appear suddenly in an acute state or to grow by acute extensions, the principal effort should be devoted to preventing their appearance. One way of doing this is to avoid the external circumstances which appear to precipitate relapses. These excitants are ordinarily stated to be injuries, infections, exposure to cold and pregnancy. Von Hoesslin's [2] critical study bears out the usual impression. Among the 516 cases which he reports, the disease in 132 was apparently precipitated or aggravated by exogenous factors. The presumed cause was

6. Putnam, T. J.: The Diagnosis of Multiple Sclerosis and the Outlook for Treatment, M. Clin. North America **21**: 577-593 (March) 1937.

injury in fifty-two cases, pregnancy and delivery in twenty-three, infection in twenty-two, extreme overexertion in fifteen, chilling in ten, emotion and excitement in eight and poisoning in two. The statistics of the Neurological Unit are in general agreement.

For patients with multiple sclerosis, such disturbances are to be avoided if possible. Obviously it will seldom be possible to insure against all of them.

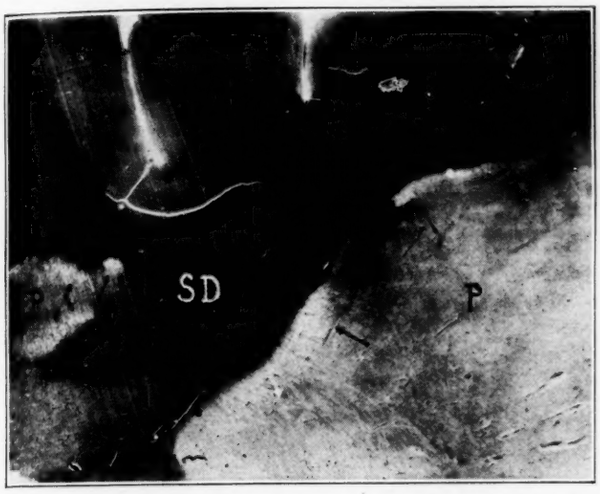

Fig. 2.—Marginal extensions (arrows) above two old gliosed plaques (*P, P*) in the cerebral white matter. A band of fresh secondary degeneration (*SD*) is in progress between them. Mallory stain, × 5.

Are Specific Measures for Preventing the Occurrence of Fresh Lesions Conceivable? It is seldom possible to devise a successful treatment without a knowledge of the fundamental mechanism of the disease. For this reason the first eight years of the work carried out under the Harvard Multiple Sclerosis Fund consisted of a systematic and critical review of the theories of pathogenesis of the disease and an attempt to compare the development of its lesions with pathologic processes of known origin.[7] When the hypothesis of an origin in a thrombosis of small vessels in the nervous system began to intrude itself on the unwilling minds of the investigators, an elaborate series of studies was planned to test the theory from many angles of approach. These included the production of lesions in animals by experimental venous obstruction and by intravenous injection of coagulants, a search for evidences of vascular obstruction in plaques and a comparison of plaques with other pathologic processes, a search for the specific "silver cells" of multiple sclerosis in thrombotic lesions and a comparison of the mineral content of plaques with that of infarctions. All these investigations confirmed the original hypothesis. It is of interest that McKhann,[8] working in the field of the pathology of the clotting mechanism, has come to the conclusion that some such disease should exist.

Can such a conception be used for therapeutic purposes? In animal experiments it was found possible to protect against many times the usually fatal dose of a coagulant such as lung extract by preliminary administration of any one of a number of anticoagulants, such as cysteine, heparin, "germanin" and certain dyes. A cautious trial of certain of these agents is under way with a group of patients selected as having the disease in a remittent stage with fairly regular relapses. It is certainly possible to give some of these agents over a long period without injury to the patient and to prolong the clotting time of the blood by their administration.[9] They have no immediate effect on established symptoms, and those at present available cannot be depended on to prevent relapses. Whether or not they produce a significant decrease in the incidence of exacerbations and whether more efficient measures may be found by systematic search remains to be seen.

7. Putnam, T. J.: Lesions of "Encephalomyelitis" and Multiple Sclerosis: Venous Thrombosis as Primary Alteration, J. A. M. A. **108:** 1477-1480 (May 1) 1937.

8. McKhann, C. F.: Material in preparation.

SUMMARY

1. Multiple sclerosis is characterized by a tendency to spontaneous remissions of greater or less degree. Some definite improvement at some time occurred in 69 per cent or more of 133 cases studied. Complete disappearance of the first symptom was reported by 44 per cent of the patients. The incidence of remissions was far higher for ambulatory patients seen in office practice than for ward patients.

2. A survey of the reported results of the more widely used forms of treatment shows that the proportion of patients improved varied from 35 to 60 per cent, with an average of 47.5 per cent, in a total of 1,407 cases analyzed.

3. The effects of the more popular types of therapy in the present series have not been encouraging.

4. On the basis of the statistical evidence and also of the microscopic appearance of plaques studied at various stages of development, there is good reason for believing that the maximum extent of the future recovery from acute lesions is determined at the time the lesions are formed and that reparative processes run their course irrespective of treatment (aside from attention to hygiene and nutrition).

5. The criterion of the success of any treatment of multiple sclerosis should probably be the prevention of relapses.

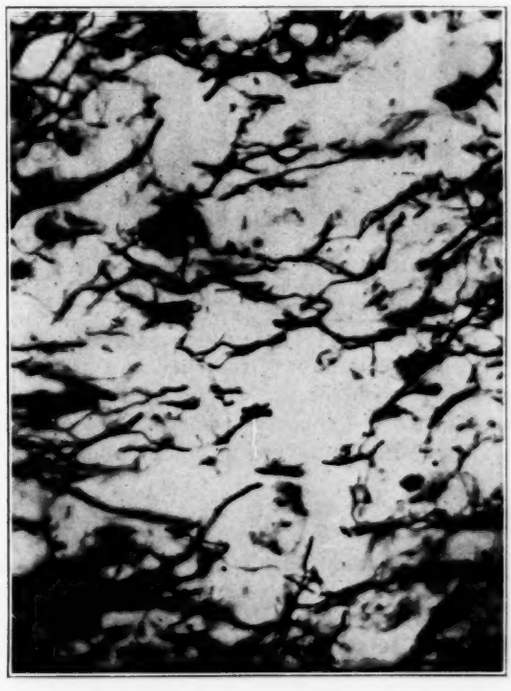

Fig. 3.—Fragmented cylinders in a fresh extension of an old plaque from a case of multiple sclerosis. Bodian stain, section 10 microns thick, high power dry lens.

9. Putnam, T. J., and Hoefer, P. F. A.: Cysteine Hydrochloride as an Anticoagulant for Clinical Use, to be published.

PELVIRADIOGRAPHY AND CLINICAL PELVIMETRY

COMPARATIVE VALUES IN THE PROGNOSIS OF THE OUTCOME OF LABOR

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Pelvimetry is an important phase of modern obstetrics, yet the subject remains somewhat confusing and lacking in precision. The external pelvic measurements are at best inadequate as a true index of pelvic types. The internal measurements, however, offer certain accurate data covering the pelvic inlet, the contour, the sweep of the subpubic arch and the outlet. X-ray examination was originally employed for the purpose of attesting fetal presence, multiple fetus and fetal deformities. During the last fifteen years, as a result of the investigations of Thoms, Chambers, Jarcho, Spalding, Ball, Hirsch and others, several methods of x-ray pelvimetry

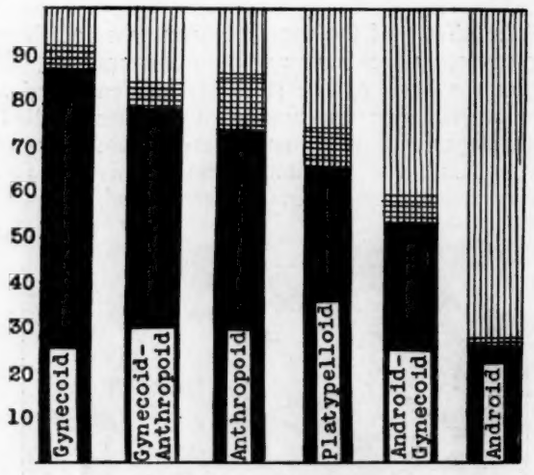

Fig. 1.—Types of pelvis and types of delivery. The black areas indicate spontaneous deliveries, the crosshatching elective forceps deliveries and the parallel lines instrumental deliveries.

have been introduced. These investigations culminated in the classic contribution of Caldwell and Moloy,[1] who have provided, with the use of roentgen rays, a simple yet practical and accurate classification of the various pelvic types and have augmented our knowledge of the mechanism of labor.

This study covers a series of 350 patients, including 315 ward and thirty-five private patients. The x-ray examination was made ten days prior to the calculated date of labor. In instances of miscalculation, when labor was delayed by several weeks, x-ray examination was repeated at term. In the classification of the various types of pelves, such factors as size of inlet, relationship between head and inlet, sacrosciatic notch, inclination of sacrum and lateral bore, sacral promontory, subpubic angle, shape of arch, length of rami and side walls of the pelvis were taken into consideration. The classification adopted was that of Caldwell and Moloy.

In this series the percentages of the various major pelvic types closely approximate the original figures of Caldwell, Moloy and D'Esopo,[2] with the exception of the platypelloid type. This type, considered a rarity by the original observers, was found in appreciable numbers in our series. This may be explained on the basis of racial differences, since the series consisted entirely of patients of the Jewish race, wherein females of the hyposthenic and pyknic type are frequently encountered.

TYPES OF PELVIS

Gynecoid.—The gynecoid pelvis is the type most frequently encountered in any series; it occurred in 158 of our 350 cases (fig. 1). The highest incidence of spontaneous deliveries with the major types occurred with this type. Of the 158 patients 136, or 84 per cent, were delivered spontaneously; and of the 16 per cent of operative deliveries nearly 60 per cent were low forceps and one half of these were elective. Two of the four cesarean sections in this group were performed because of extrapelvic conditions. Contraction of the inlet was uncommon and dystocia, when it occurred, developed at or below the level of the spines.

Anthropoid.—The anthropoid type was next in frequency, with fifty-two cases. Easy delivery was the rule in the majority; forty, or 77 per cent, of the patients were delivered spontaneously. Half of the operative deliveries were elective low forceps deliveries. The only cesarean section performed in this group was of a 38 year old woman with a history of six previous spontaneous miscarriages.

The fetal head frequently engaged in a posterior position, but spontaneous rotation (anteriorly) occurred in the majority of cases. While we agree with Thoms[3] that a persistent occipitoposterior position is more frequent with the anthropoid than with other types, the incidence in our series was low, this complication being noted on only seven occasions. There were three deliveries by forceps in the occipitoposterior position; two of the fetuses were rotated by forceps and two delivered spontaneously with face to pubis. A probable cause of this favorable outcome is that the anthropoid pelvis has actually larger dimensions than any other type, both at inlet and outlet. The majority of the justo major pelves in our series were anthropoid, which is commensurate with the physique of women of this type.

Android.—Forty-four women in our series showed the true android type of pelvis and twenty-three the mixed android type (i. e., with android posterior segments and gynecoid forepelvis). The android type of pelvis entails the most difficult deliveries. Spontaneous delivery in this group was the exception rather than the rule. In only sixteen of forty-four parturient women (36.4 per cent) did labor terminate so favorably. Difficult midforceps extraction was required in eleven cases (25 per cent). There were twelve cases (27 per cent) of cesarean section and five additional cases in which this operation was evidently indicated, labor terminating either in craniotomy, spontaneous stillbirth after protracted labor, or version after so long a time had elapsed after rupture of the membranes that cesarean section would have been precarious. Thus the incidence of delivery by the abdominal route would have been 39 per

From the Maternity Division of Beth Israel Hospital.
Read before the Section of Obstetrics and Gynecology, New York Academy of Medicine, Dec. 28, 1937.
Drs. I. Seth Hirsch and Myron A. Schwartzchild aided with the roentgenologic aspects of this study. The technic used herein was that which they have described.

1. Caldwell, W. E., and Moloy, H. C.: Am. J. Obst. & Gynec. **26:** 479 (Oct.) 1933.
2. Caldwell, W. E.; Moloy, H. C., and D'Esopo, D. A.: Am. J. Obst. & Gynec. **28:** 482 (Oct.) 1934.
3. Thoms, Herbert: Surg., Gynec. & Obst. **56:** 97 (Jan.) 1933.

cent. Unlike the other pelvic types, dystocia started at the inlet, with progressive difficulty at the midpelvis and outlet.

Hence it is of utmost importance that the obstetrician recognize clinically the android pelvis, for this type presents a definite hazard to both mother and fetus. In less than one third of the cases of this type in our series did labor terminate spontaneously with a living baby.

With the mixed types the percentage of operative deliveries declined (39.1 per cent), but such deliveries were nevertheless more frequent than with the other major types, except the true android. Thus, although the average inlet dimensions were barely greater than those of the true android pelvis, the presence of the wide anterior segment increased considerably the chances for engagement of the fetal head. However, had cesarean section been resorted to in the four cases in which delivery terminated in either craniotomy or fetal death after prolonged labor, the incidence of this operation would have been 26 per cent rather than 8.7 per cent.

The troublesome dystocia dystrophica syndrome, described by Cornell [4] and Greenhill,[5] is not associated exclusively with any particular type of pelvis as far as we have been able to determine. Thoms said that this syndrome is found most commonly with the anthropoid type, but we have encountered it most frequently with the android. The physique of the patient described by Cornell typifies the android rather than the anthropoid type.

Platypelloid.—As has been noted, the platypelloid type of pelvis occurred more frequently in our series than is usually the case; there were twelve cases of true platypelloid pelvis and nine cases of mixed type. Delivery was effected easily in sixteen of these cases. In three cesarean section was required, and in two version was successful after the fetal head had failed to engage. As a rule, in this type of pelvis the narrow anteroposterior diameter is amply compensated for by a broadened transverse diameter. Furthermore, obstruction to the fetal head is usually encountered only at the inlet and, once this is traversed, uneventful delivery may be reasonably expected.

FURTHER USES OF X-RAY PELVIMETRY

The fact that x-ray pelvimetry makes it possible to determine the type of pelvis in each case, which, as has been shown, is of practical importance in determining the probable course of labor, is not its only value. It gives more accurate measurements of the pelvic diameters, especially of the inlet, than clinical methods, as has been demonstrated in our series. It also discloses the position and relationship of the important pelvic landmarks, especially when the stereoscopic method is employed—factors of definite significance to the obstetrician.

Measurements and Size of Inlet.—The x-ray measurements of the pelvic inlet appear to be consistently greater than those clinically determined. Not infrequently the true conjugate obtained by x-ray examination is the same measurement recorded by the clinician as the diagonal conjugate. This disparity arises from errors in the clinical methods, especially in deducting 1.5 to 2 cm. from the diagonal conjugate, particularly when the inclination of the symphysis is toward the sacrum. Again, when false promontories exist or when the sacrum slopes forward rather than backward, lower levels than the true promontory are palpated and smaller measurements are obtained than actually exist (fig. 2). Thus, contractions of the anteroposterior diameter are diagnosed erroneously.

Stander [6] designated as a borderline pelvis one whose conjugata vera measured between 7.5 and 9 cm. and stated that "in more than one half of such cases, spontaneous labor can be looked for; where the conjugata vera falls between 9 and 10 cm. spontaneous labor is the rule." This, however, is contrary to our experience. There were twenty-three pelves in our series with the true conjugata (or anteroposterior diameter) varying between 8 and 9.9 cm. In the twenty cases in which this diameter varied from 9 to 9.9 cm. the following results were obtained: spontaneous delivery in four, or 20 per cent (sum of the anteroposterior and transverse diameters, 23.3 cm.); difficult forceps delivery in three, or 15 per cent; craniotomy in two, or 10 per cent (sum of the anteroposterior and transverse diameters, 21.6 cm.); version in one, or 5 per cent, and cesarean section in ten, or 50 per cent. In the remaining three cases, in which the conjugata vera measured 8 or 8.9 cm., cesarean section was performed.

Fig. 2.—The false promontory shows that a lower level than the true promontory may be palpated.

These results in our series show therefore that any pelvis with a conjugata vera of less than 10 cm., as determined by x-ray examination, is to be considered as contracted. The transverse diameter of the inlet, however, deserves special consideration, for a broadening of the pelvis transversely will compensate for a narrowing of the anteroposterior diameter. While no hard and fast rules can be drawn, it would seem from our series that, when the sum of the conjugate and transverse diameters of the inlet equals or exceeds 24 cm., engagement of a fetal head of average size will almost invariably occur. Hence, in the four cases cited in which spontaneous delivery occurred despite a contracted anteroposterior diameter, the sum of the inlet diameters was 23.3 cm. and the average fetal weight was 7 pounds. In the nineteen cases in which a cesarean

4. Cornell, E. L.: Surg., Gynec. & Obst. **53**: 707 (Nov.) 1931.
5. Greenhill, J. P.: S. Clin. North America **4**: 811 (June) 1924; Internat. Clin. **4**: 171 (Dec.) 1925.
6. Stander, H. J.: Williams Obstetrics, ed. 7, New York, D. Appleton-Century Company, Inc., 1936.

or instrumental delivery was performed, the sum of the inlet diameters averaged 21.6 cm., with an average fetal weight of 6 pounds 9 ounces. In eighteen cases of android pelvis in our series in which this figure was less than 22 cm. regardless of the length of the conjugata vera, not a single delivery by vagina of a living baby occurred.

Sacrosciatic Notch.—The importance of the sacrosciatic notch as a reflection of contraction of the posterior segment has been adequately stressed by Caldwell and Moloy. Suffice it to say that the narrow notch is almost invariably found in the android pelvis, and when it is present careful attention must be directed to the anterior segment and subpubic arch before predicting successful delivery.

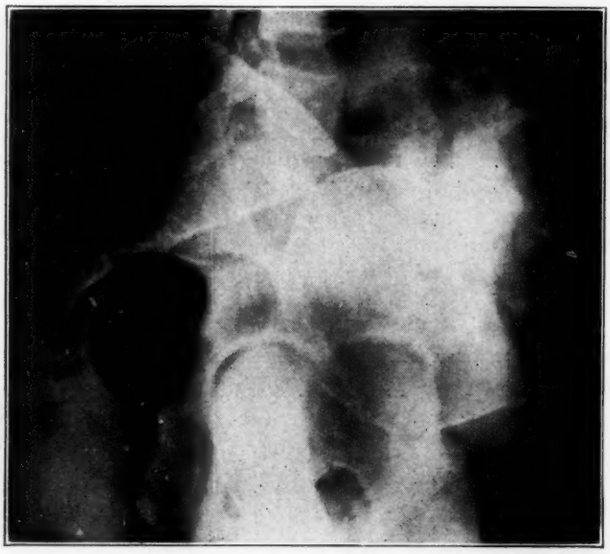

Fig. 3.—The pelvic inclination of the superior strait is increased and the sacrum flares backward.

Ischial Spines.—The presence of excessively prominent spines by itself will rarely give rise to dystocia. Only in associating with convergent side walls and lateral bore do these projections become factors in obstructing the passage of the head. With the anthropoid pelvis, however, because of the narrowing of the transverse diameter, dystocia due to flaring spines may occur.

Inclination of Sacrum and Lateral Bore.—The sacral tilt and lateral bore are visualized on the lateral view of the pelvis. The tilt of the sacrum shows considerable variation even in the normal pelvis, where it is usually found directed moderately backward. A forward tilt is encountered infrequently. It is most often found in the android type of pelvis. A sacrum directed backward, almost parallel to the horizon, is more common and may be encountered in all type of pelves. It, however, was most frequently associated with the platypelloid and android varieties. This backward flare of the sacrum may be detected clinically by external examination. It occurs usually in the short stocky woman with exaggerated lumbar lordosis. When the pelvic inclination (plane of the superior strait) is increased in association with a sacrum flaring backward and a straight or a convergent lateral bore, labor is usually complicated, and it is with pelves of this type, usually android, that we have noted a high incidence of both difficult delivery and cesarean section (fig. 3).

In most pelves with a normal or somewhat exaggerated backward slope of the sacrum the lateral bore becomes divergent, affording a more spacious midpelvis. Again, in the less common variety where the sacrum is directed relatively forward in the pelvis, both the midpelvis and the outlet are encroached on, and frequently this results in a midpelvic arrest. This is a common cause of midpelvic arrest in the android pelvis (25 per cent of this type occurred in our series).

Fortunately in the anthropoid type, where the transverse diameter at midpelvis is frequently narrower, even than at the inlet, the sacrum usually tilts backward and has a curve more accentuated than normal; this often results in a divergent lateral bore. This affords room for spontaneous rotation of a well flexed head in the posterior half of the pelvis. The mechanism was observed in several pelves of this type, and it was ascribed to a roomy posterior segment below the inlet. This pelvic spaciousness was due to a wide sacrosciatic notch associated with exaggerated posterior tilt and curvature of the sacrum.

Promontory.—A high promontory is usually the accompaniment of a six piece sacrum and is seen most frequently in the anthropoid pelvis; it is less common in the android and least common in the gynecoid. Little importance can be attached to the height of the promontory, except that a high promontory is most prevalent in the male type of pelvis.

Side Walls.—The side walls of the pelvis are visualized both in the outlet film and in the stereoscopic view, although a better knowledge of the degree of slope is obtained from the former. Normally the lateral walls of the pelvis slope gently inward with the maximum inclination at the ischial spines, making for a slight convergence of the pelvic side walls and diminishing the transverse diameter of the midpelvis. Occasionally the walls are straight or parallel to each other. Varying degrees of midpelvic contraction due to convergence of the side walls are encountered. In the anthropoid

Fig. 4.—An android pelvis with convergent side walls.

pelvis this convergence may account for the frequency of persistent occipitoposterior position, which has been stressed by Thoms. The relatively narrowed transverse diameter of the inlet is encroached on by the converging lateral walls, preventing the head from rotating and necessitating delivery without rotation to an anterior position. In the android pelvis there is a marked tendency to excessive convergence of the side walls as they approach the spines, resulting in a true funnel-shaped birth canal. Failure of the fetal head to rotate spontaneously at lower levels may be due to the soft tissues. Not infrequently in primiparas a difficult delivery may occur as the result of an arrest of the fetal head in a transverse position below the spines, where no bony obstruction can be demonstrated, while subsequent deliveries are rapid (fig. 4).

delivery. Fortunately, however, such minor true relative contractions at the outlet give rise to no great problem in delivery.

Relationship Between Head and Inlet.—One of the most important criteria in prognosticating the outcome of labor appears to be the relationship between the fetal head and the pelvic inlet as viewed stereoscopically. This may be considered to be of even greater value than the pelvic measurements, particularly with borderline and relatively contracted pelves. The information derived from the stereoscopic view, however, must be combined with clinical and other x-ray criteria.

RESULTS

The accompanying tables present a summary of our observations on the 350 parturient women who were

TABLE 1.—*Type of Delivery According to Pelvic Type*

Type of Pelvis	Number of Cases	Percentage	Spontaneous Delivery	Operative Delivery	Percentage Operative	Correct Percentage Operative	Conjugata Vera	Transverse Diameter
1. Gynecoid	158	45.1	136	22	14.0	8.9	11.4	13.3
2. Gynecoid with narrow forepelvis	16	4.5	14	2	12.5	6.2	11.6	13.2
3. Gynecoid-anthropoid	21	6.0	17	4	19.0	14.3	11.7	12.8
4. Anthropoid	52	14.3	40	12	23.0	13.5	12.5	12.4
5. Anthropoid-gynecoid	6	1.7	4	2	33.3	33.3	12.3	13.2
6. Android	44	12.6	16	28	63.6	62.4	10.3	12.6
7. Android-gynecoid	23	6.6	13	10	43.5	39.1	10.3	13.0
8. Android-anthropoid	9	2.6	8	1	11.0	11.0	12.2	13.6
9. Android-platypelloid	1	...	1	..	....	....	10.0	13.2
10. Platypelloid	12	3.4	8	4	33.3	25.0	10.2	14.4
11. Platypelloid-gynecoid	7	2.0	6	1	14.3	14.3	10.9	14.7
12. Platypelloid-android	1	...	..	1	100.0	100.0	8.8	13.7
Totals	350		263	87	24.8	20.6		

TABLE 2.—*Types of Operative Delivery*

Type of Pelvis	Number of Cases	Operative Delivery	Low Forceps Delivery	Elective Low Forceps Delivery	Mid Forceps Delivery	Cesarean Section	Version	Craniotomy	Spontaneous Stillbirth
Gynecoid	158	22	13	6	5	4*	..	..	..
Gynecoid with narrow forepelvis	16	2	2	1	..	..	..	..	..
Gynecoid-anthropoid	21	4	3	1	1	..	..	..	..
Anthropoid	52	12	7	6	4	1†	..	..	..
Anthropoid-gynecoid	6	2	2	..	..	..	..	..	..
Android	44	28	2	1	11	12	2	1	2
Android-gynecoid	23	10	2	..	3	2	1	2	2
Android-anthropoid	9	1	1	..	..	..	..	..	..
Android-platypelloid	1	..	..	..	..	..	..	..	..
Platypelloid	12	4	1	1	..	2	1	..	..
Platypelloid-gynecoid	7	1	..	..	..	..	1	..	..
Platypelloid-android	1	1	..	..	..	1	..	..	..
Totals	350	87	33	16	24	22	5	3	4

* Two cesarean sections performed for extrapelvic conditions.
† Cesarean section performed because of six previous spontaneous miscarriages.

Subpubic Angle, Shape of Arch and Length of Rami.—Narrowing of the subpubic angle, while commonest in the android type, is found in all pelvic types but least frequently in the anthropoid and platypelloid varieties. In our experience clinical examination is somewhat more accurate in distinguishing moderate contractions of the outlet than x-ray examination, for by the latter method "narrow outlet" is diagnosed too frequently. Unfortunately our technic does not permit accurate measurements of the biischial diameter or the length of the rami, the latter playing an important part in outlet contractions. While marked contractions are easily detected radiographically, minor contractions frequently are overlooked. Furthermore, when the fetus is large the outlet which appears ample on x-ray examination proves insufficiently roomy for spontaneous

examined roentgenographically near or at term and whose progress in labor was closely studied. Table 1 shows pelvic types, percentage of spontaneous and operative deliveries (with correction for conditions other than dystocia requiring operative delivery) and average inlet measurements.

A more detailed analysis of the mode of operative delivery required with the various pelvic types is presented in table 2.

In comparing the accuracy of the clinical and the radiologic prognosis of the outcome of labor in our series, we divided the diagnoses into four general groups and compared these with the clinical results, as shown in table 3.

A. *Clinical and X-Ray Diagnosis, Ample Pelvis.*—In this large group, comprising nearly two thirds of

the entire series, only four pelves proved to be contracted that were not so diagnosed either clinically or by x-ray examination, and in these cases the contractions were slight, so that delivery was easily effected by forceps, with no detriment to mother or fetus. Hence, when clinical and x-ray diagnosis pointed to a normal delivery, the error in a large series proved almost negligible.

B. *Clinical Diagnosis, Contracted Pelvis; X-Ray Diagnosis, Ample Pelvis.*—It is in this particular group that we believe that pelviradiography has its greatest value, namely when the pelvis has been judged contracted on the basis of the usual methods of external and internal pelvimetry. We have stated that the clinical measurements are almost invariably smaller than those obtained stereoscopically and have cited the reasons for this disparity. Of the thirty cases in which the x-ray examination showed an ample pelvis and the pelvis was considered contracted by the clinician, the clinician was correct in only 16.6 per cent. In six cases in which the possibility of cesarean section was considered on clinical grounds, the radiographic prediction of spontaneous delivery was later substantiated. Of the five pelves correctly diagnosed by the clinician as contracted and erroneously labeled ample by the roentgenologist, only one was sufficiently contracted to give rise to difficulty in delivery; the remaining four were only moderately contracted at the outlet.

TABLE 3.—*Diagnosis Versus Clinical Results*

Diagnosis	No. of Cases	Proved Ample	Proved Contracted	Percentage Correct
A. Clinic: ample X-ray: ample	257	253	4	Clinic: 98.4 X-ray: 98.4
B. Clinic: contracted X-ray: ample	30	25	5	Clinic: 16.6 X-ray: 83.4
C. Clinic: ample X-ray: contracted	19	5	14	Clinic: 26.3 X-ray: 73.7
D. Clinic: contracted X-ray: contracted	44	5	39	Clinic: 88.6 X-ray: 88.6

C. *Clinical Diagnosis, Ample Pelvis; X-Ray Diagnosis, Contracted Pelvis.*—In this group, again, x-ray examination proved somewhat the more accurate. In the five cases in which difficulty in delivery was predicted by x-ray examination despite ample clinical measurements, spontaneous delivery occurred. However, the contraction diagnosed roentgenologically in each case was at the outlet, and in not a single instance was abdominal section advised. In one case a test of labor was advised, resulting in spontaneous delivery, but only after labor had progressed for fifty-seven hours. On the other hand, fourteen pelves considered ample clinically proved to be contracted according to x-ray examination: In five cases elective cesarean section was considered the only means of insuring a living baby, despite clinical opinion to the contrary. The results were three spontaneous deliveries of stillborn infants after protracted labor, one craniotomy and one cesarean section after a test of labor. In the remaining nine cases, contractions of a less serious nature were correctly diagnosed by x-ray examination and the infants delivered from below.

D. *Clinical and X-Ray Diagnosis, Contracted Pelvis.*—Of forty-four patients for whom dystocia was predicted both clinically and roentgenologically, five were delivered spontaneously and thirty-nine required operative or instrumental aid, the correct diagnosis being made for 88.6 per cent. However, this is too flattering to both the clinician and the obstetric roentgenologist, for it does not represent their prediction as to the outcome of labor, which, with the contracted pelvis, is of paramount importance. Thus a diagnosis of "contracted pelvis" carried little meaning unless the observer specified whether the contraction militated against delivery of a living baby through the natural channel. In seventeen cases, as a result of both clinical and x-ray examination, elective cesarean section was performed, with no resultant fetal or maternal mortality. In ten other cases, in which cesarean section was indicated on the basis of x-ray evidence and in which forceps delivery was suggested on the basis of clinical evidence, the labor resulted in two craniotomies, two midforceps deliveries with living babies, two difficult forceps deliveries with stillbirths, one cesarean section after adequate test of labor, one midforceps delivery with traumatic separation of the symphysis (living baby), one difficult midforceps delivery with postpartum hemorrhage and sepsis (duration of labor thirty-six hours, living baby) and one version after twenty-four hours of labor (head floating, laceration of the cervix, severe postpartum hemorrhage, living baby).

COMMENT

A clinical diagnosis of contracted pelvis was made far too often. While pessimistic opinions were rendered clinically as to the prognosis of labor in seventy-four cases, only 59.1 per cent of these opinions proved correct, as compared with 84.1 per cent of accuracy for x-ray prognosis. It was further found that both clinical and radiographic methods reached a high degree of accuracy in the diagnosis of "ample" pelves. For the entire series the x-ray prognosis was correct in 94.6 per cent of cases and the clinical in 86.3 per cent. This is expressed graphically in table 4.

In comparing the accuracy of clinical and x-ray predictions of the outcome of labor and in deciding the method of delivery, we received opinions from both the staff and the courtesy obstetricians. The greatest accuracy was attained when the two methods (clinical and x-ray) were combined, i. e. when obstetricians familiar with pelviradiography examined the films as well as the patient. We do not believe that the roentgenologist alone can render a more accurate opinion (except academically) than the experienced obstetrician. For the inexperienced clinician, however, the x-ray record should be a valuable guide. Moreover, both the obstetrician and the roentgenologist must know their limitations. We do not mean to imply that pelviradiography will prove an absolute panacea for clinical doubts, nor does it approach mechanical accuracy. It does, however, lend a more suitable means of comparing the adaptability of the fetal head to the pelvis

TABLE 4.—*Accuracy of Diagnosis*

	Diagnosis	No. of Cases	Proved Contracted	Proved Ample	Percentage Correct
Clinic	Contracted	74	44	30	59.1
X-ray	Contracted	63	53	10	84.1
Clinic	Ample	276	18	258	93.5
X-ray	Ample	287	9	278	97.0

than has hitherto been available. Furthermore, with exact knowledge of pelvic types, the x-ray method provides a scientific approach to the problem of the type of forceps most suitable for the individual case, including its mode of application. Similarly it furnishes an index to the optimum pelvic level for rotation should the maneuver be necessary.

Heretofore, when the physician was equipped with a clinical knowledge of pelvic types, the selection and the application of forceps was a matter of personal equation based on trial and error. Many attempts at rotation have failed in the case of the anthropoid pelvis. In the anthropoid pelvis with a relative contraction of the transverse diameter, the head engages in the long anteroposterior diameter. Attempts at rotation are dangerous to both mother and child. With the aid of the stereoscope such futile and dangerous trials may be avoided, dislodgment and rotation above the contraction plane or a delivery in the posterior position being substituted. The Kielland forceps is most suitable for this type of rotation and delivery.

With the platypelloid pelvis, corresponding to the simple flat pelvis, rotation is inadvisable for a transverse arrest. Here delivery is facilitated first by traction in the transverse plane and then by rotation at the outlet. The Barton forceps is most suitable, especially in the presence of an asynclitism.

For a traverse arrest in the android or android-gynecoid pelvis, rotation is best accomplished by the use of the Kielland forceps.

We feel that clinical experience without the use of pelviradiography has the advantage over the use of x-ray interpretation alone, and it is of paramount importance for the obstetrician of the future to develop himself clinically rather than to rely solely on x-ray methods. Finally, we believe that the greatest acumen in determining the relative size of passage and passenger and in selecting the appropriate operative procedure is best obtained when the experienced obstetrician combines his clinical knowledge with pelviradiography.

CONCLUSIONS

The various pelvic types, as demonstrated by x-ray pelvimetry, are of definite significance in determining the course of labor.

X-ray measurements were consistently greater than those obtained clinically.

The relationship between fetal head and inlet as seen stereoscopically is one of the most important criteria in x-ray prognosis of the outcome of labor, particularly with the borderline and relatively contracted pelvis.

When clinical and radiologic opinions agree that a pelvis is ample for the fetus, normal delivery may be expected in the vast majority of cases.

X-ray pelvimetry provides an excellent "negative test" for pelves diagnosed clinically as contracted. Hence every woman suspected of pelvic contraction should receive the benefit of a pelvic stereogram.

Pelviradiography has its greatest value in determining inlet contractions but is less efficacious in predicting dystocia below the ischial spines.

The greatest accuracy was attained when both clinical and x-ray observations were correlated.

Pelviradiography is an obstetric study rather than a radiologic problem, and interpretation of films is preferably rendered by the obstetrician trained in roentgenology.

LEIOMYOSARCOMA OF THE DUODENUM

REPORT OF A CASE AND REVIEW OF THE LITERATURE

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The duodenum is the seat of tumors of mesoblastic origin in rare instances. Leiomyosarcoma of the duodenum is of interest because of its extreme rarity and because of its similar behavior in every case reported, as will be shown. Only five cases have been reported to date. We record the sixth case and give a brief review of the literature.

Our search reveals only three articles that are confined to the subject of leiomyosarcoma of the duodenum. The articles are in the main case reports. A comparative study of these cases has not been made heretofore Perhaps this is because the series is so small.

In this paper we shall not attempt to discuss leiomyosarcoma of the gastrointestinal tract except as it pertains to cases involving the duodenum. Raiford,[1] in his treatise on tumors of the small intestine, has dealt with the subject in such a thorough fashion that little can be added. Mumey's [2] article on sarcoma of the small intestine deals exceptionally well with the several types of sarcoma to be found in the region of the small intestine. Confusion is brought about in some of the past articles by the authors including lymphosarcoma and by covering the various divisions of the small intestine instead of confining the discussion to that of the duodenum. Lymphosarcomas do not arise from the same tissue as do leiomyosarcomas. They grow differently, producing a different pathologic picture and different symptoms, as we shall show. A careful analysis of the cases of leiomyosarcoma confined strictly to the duodenum will give information of sufficient interest to warrant our complete study of the subject.

REPORT OF CASES IN THE LITERATURE

The first case report was by von Salis [3] in 1920. His patient was a man aged 40 who had had symptoms of peptic ulcer for seven years. There had previously been an operation performed for the gastric symptoms. Three months before his admission with leiomyosarcoma he had fever and had felt an abdominal mass. At operation a lobulated tumor the size of a baby's head was found arising from the muscular wall of the third portion of the duodenum in its distal part. A fistula to the lumen of the bowel and an abscess were present. The tumor did not produce obstruction or dilatation of the duodenum. The patient lived four months after operation. The tumor was found to be a leiomyosarcoma at autopsy. Diagnosis was not made previous to the operation, and the type of operation performed was not described.

Brdiczka, as reported by Slot,[4] described a case of myosarcoma of the duodenum in a woman aged 60,

From the Surgical and Pathological Services of Butterworth Hospital.

1. Raiford, T. S.: Tumors of the Small Intestine, Arch. Surg. **25**: 122-177 (July), 321-355 (Aug.) 1932.
2. Mumey, N.: Sarcoma of the Small Intestine, Colorado Med. **29**: 12 (Jan.) 1932.
3. von Salis, H. W.: Ueber das Sarcom des Duodenum insebesondere das Myosarkom, Deutsche Ztschr. f. Chir. **160**: 180 (Dec.) 1920; abstr. J. A. M. A. **76**: 972 (April 2) 1921.
4. Brdiczka, I. G.: Roentgenpraxis **3**: 625 (July 15) 1931.

diagnosed by x-ray examination. The patient was operated on and a tumor the size of a baby's head was found in the right epigastrium attached to the bulb of the duodenum. The patient died suddenly at the end of one week of pulmonary embolism. There were no demonstrable metastases. This case was the second recorded in the literature and has not been mentioned in any other case report.

Andersen and Doob [5] added a third case in 1933. A machinist aged 37 had been treated for duodenal ulcer for five years. He presented a recent acute loss of weight and edema of the lower extremities. He had had tarry stools for seven weeks and muscular weakness for three weeks. X-ray examination of the gastrointestinal tract was negative. A clinical diagnosis of carcinoma of the colon was made. Such conditions as retroperitoneal tumor, mesenteric tumor and kidney tumor were considered. The patient died without operation, very suddenly, of pulmonary embolism. At postmortem examination a large mass was found arising from the second and third portions of the duodenum which, judged by the description, was equal to the size of a fetal head. It was located in the right epigastrium and right hypochondrium. Ulceration and fistulization were found. There was no dilatation and no stenosis. There was thrombosis of the iliac and pulmonary veins. Histologically the mass was found to be a primary leiomyosarcoma.

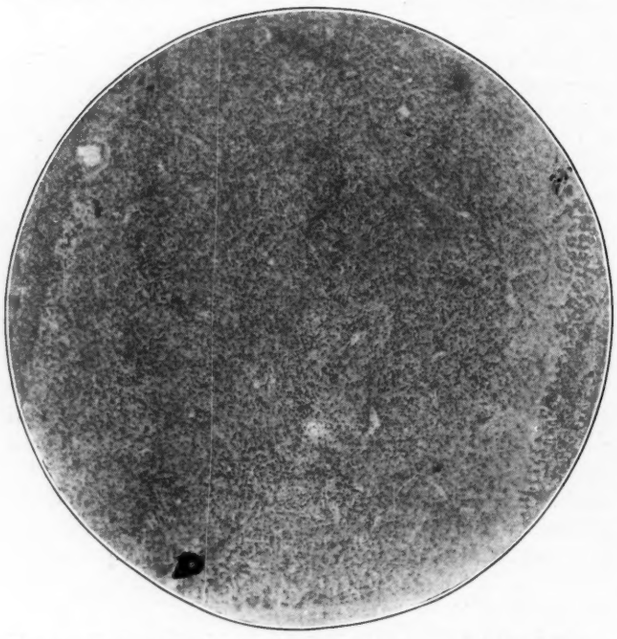

Fig. 1.—Section of leiomyosarcoma of the duodenum under low power.

Silverstone's [6] interesting case was the next to appear in the literature, in 1934. A woman aged 51 complained of epigastric pains, unrelated to food, at intervals for two years. However, the character of the pain had become more severe during the past two months. She had suffered from vomiting for three months. She also had a toxic adenoma of the thyroid. A diagnosis of duodenal tumor was not made before operation. At operation a tumor arising from the third portion of the duodenum and approximately the size and shape of a uterus was removed with a cuff of the duodenum, and the duodenum was sutured transversely. To relieve tension a posterior gastroenterostomy was performed. Death occurred on the fourth postoperative day from thyrotoxicosis. Autopsy revealed no leakage.

Seymour and Gould [7] reported the fifth and last case in 1936. A man aged 54 complained chiefly of pain in the abdomen, loss of weight, progressive jaundice and itching, all of three months' duration. He presented a mass in the epigastrium the size of a grapefruit. The roentgenologist reported "intraduodenal tumors or one lobulated tumor due to polyp or malignancy." There was no operation. Death occurred in less than four months from the time of first symptoms. Autopsy revealed a small tumor arising from the posterior wall of the first portion of the duodenum with ulceration, fistulization and abscess formation. No metastases were found.

REPORT OF AUTHORS' CASE

P. V., a white man aged 63, a laborer, referred to the surgical service of one of us (J. C. F.) at Butterworth Hospital by Dr. C. J. Geenen, April 6, 1937, complained chiefly of a mass in the abdomen which was first noticed three months before. It had been tender at times but there had been no gastric distress or difficulty in elimination by the bowel. He had lost 30 pounds (13.6 Kg.) since the appearance of the mass and had noticed considerable muscular weakness. The patient's past health had been excellent. The family history was negative for cancer and tuberculosis.

At examination a mass the size of a grapefruit was found just below the umbilicus behind the right rectus muscle. The mass was freely movable from side to side and could be displaced upward when the patient was in the recumbent position. The heart tones were of good quality, with a rate of 70, and regular. The blood pressure was 130 systolic and 80 diastolic. The urine was normal. The white blood cell count was 7,450; the red blood cell count was 4,600,000 and the hemoglobin content 100 per cent. X-ray examination of the gastrointestinal tract was negative for an intrinsic lesion, but the roentgenologist suggested a growth from without pressing on the transverse colon.

A clinical diagnosis of a tumor of the greater omentum or pedunculated retroperitoneal tumor was made. The possibility of a tumor of the transverse colon was considered.

The patient was prepared for operation by two days of rest in bed, irrigations of the colon and forced fluids. His blood was typed and it was found to be group IV by the Moss method. Suitable donors were obtained.

Operation was performed by one of us (J. C. F.) April 8. A right paramesial incision was made half above and half below the level of the umbilicus. When the peritoneum was opened a lobulated tumor the size of a fetal head presented. It was covered with peritoneum and had sufficient pedicle so that it could be delivered readily into the incision. The transverse colon and the greater omentum were above the tumor. The coils of the jejunum and ileum were below. The peritoneum covering the tumor was found to be the right half of the transverse mesocolon. The superior mesenteric artery and the greater vessels of the mesocolon were identified, both of which were gently retracted to the left after the peritoneum had been slit and stripped down on either side of the tumor. The dissection was carried down on the left side of the tumor parallel to the superior mesenteric artery, due precaution being used not to injury the artery. The tumor was shelled out readily until the pedicle was reached, at which point many small vessels were encountered. These were controlled by multiple forceps. The duodenum from which the tumor arose came into view. An abscess was encountered in the pedicle the size of an English walnut. Without much difficulty the tumor was freed down to the origin of the pedicle in the anterior wall of the duodenum just beyond the middle of the third portion. A cuff

5. Andersen, Dorothy, H., and Doob, Elsie F.: Leiomyosarcoma of the Duodenum, authors' reprint with additions from Arch. Path. **16**: 795-802 (Dec.) 1933.

6. Silverstone, M.: Sarcoma of the Duodenum, Brit. J. Surg. **22**: 332-336 (Oct.) 1934.

7. Seymour, W. J., and Gould, S. E.: Leiomyosarcoma of the Duodenum, Am. J. Cancer **28**: 572-578 (Nov.) 1936.

of the wall of the bowel was excised, a clean removal of the entire mass being made. The vessels were ligated and a few small oozers were touched up with a Bovie cautery. The rent in the duodenum was closed transversely with one row of Connell's suture with chromic 0 and a second row of Lembert's suture with silk. It was felt that an insufficient lumen remained at the site of repair; hence a posterior duodenojejunostomy was quickly done from the terminal part of the second portion of the duodenum to a free loop of the jejunum without tension. The rent in the mesocolon was closed and anchored to the anastomosis with several interrupted sutures to prevent herniation. Pulsations of the midcolic artery and the superior mesenteric artery were present. A cigaret drain was inserted down to the transverse mesocolon to take care of slight soiling, which occurred from the abscess encountered in the tumor pedicle. The abdomen was closed in layers in the usual manner.

A pathologic report was made by one of us (W. P. L. McB.). On gross examination the specimen measured 10 by 6 by 6 cm. and had the appearance of multiple nodes that have become matted together. When the mass was sectioned it was found that some of the nodules had degenerated while others were intact. The cut section had a smooth homogeneous pink appearance resembling a sarcoma. There was no attempt at encapsulation. Microscopic examination revealed that the individual cells were arranged in bundles and were supported by a thin stroma. Some of the cells were slightly elongated while others were well rounded. They varied in size. Mitotic figures were not common and there was a moderate amount of round cell infiltration. The blood vessels were thin walled and in some areas they were quite numerous.

The patient was returned to his bed in good condition. A blood transfusion was administered the following day. He was kept well supported by fluids subcutaneously and intravenously. He made a smooth recovery until the eighth postoperative day, when an elevation of temperature to 101 F. developed. His pulse rose from 90 to 110 a minute. The twelfth day duodenal fluid escaped through the wound. Rigid treatment was instituted for the duodenal fistula without avail. The amount of duodenal contents escaping increased rapidly. The wound continued to slough in spite of all our efforts. Blood transfusions were given frequently and from 6,000 to 8,000 cc. daily of dextrose and saline solution was given intravenously and subcutaneously. The patient gradually failed and died on the twentieth postoperative day.

Postmortem examination was performed by one of us (W. P. L. McB.). The body showed moderate loss of weight. The thorax was well developed and there were no palpable lymph nodes. There had been a recent surgical incision in the upper part of the abdomen which had been covered with thick paste, and there was a rubber drain protruding from the incision. Permission was limited to abdominal exploration, which was accomplished by enlarging the surgical incision. The edges of this incision had been digested by the intestinal juices and the upper part of the abdomen was found to be filled with fecal matter. Examination showed that the suture line had been broken at the site of anastomosis, which allowed fecal matter and intestinal juices to escape. At the junction of the cecum and the ascending colon there was a complete separation of the bowel, and on closer examination the remains of a thrombosed vessel were seen beneath the serosa running parallel to the line of separation. The ends of the bowel at the point of separation were ragged and necrotic. It would appear that the thrombosed vessel produced a circular area of ischemia, which in turn was digested by the intestinal juices, permitting the intestine to separate. The liver showed a moderate amount of purplish mottling, the edges were rounded and no nodules were noted. The gallbladder was slightly distended but there was no stone in the common duct. The spleen was slightly enlarged and the cut surface was soft, pulpy and dark red. The pancreas was normal. The kidneys were not adherent to the surrounding fat, the capsule stripped easily leaving a smooth surface, and on cut section the pyramids were sharply outlined with the cortex of normal thickness. The adrenals, ureters, bladder and prostate were normal. No demonstrable metastases to the lymph nodes were present.

On microscopic examination sections taken from the duodenum showed destruction of the mucosa and infiltration of the muscular coats with leukocytes. The serosa was covered with a purulent exudate. The liver showed cloudy swelling and chronic passive congestion. The spleen showed congested sinuses and a moderate number of inflammatory cells. Examination of the pancreas, adrenals, kidneys and bladder was negative.

COMMENT

Etiology.—The age incidence of leiomyosarcoma of the duodenum in the reported cases has varied between 34 and 67 years. Of the six patients with this condition on record, four have been men and two women.

Pathology.—In the strict sense of the word, the term leiomyosarcoma should be abandoned in favor of the term malignant myoma, the term sarcoma being reserved for malignant tumors with their origin in the connective tissue. But since the term has become an

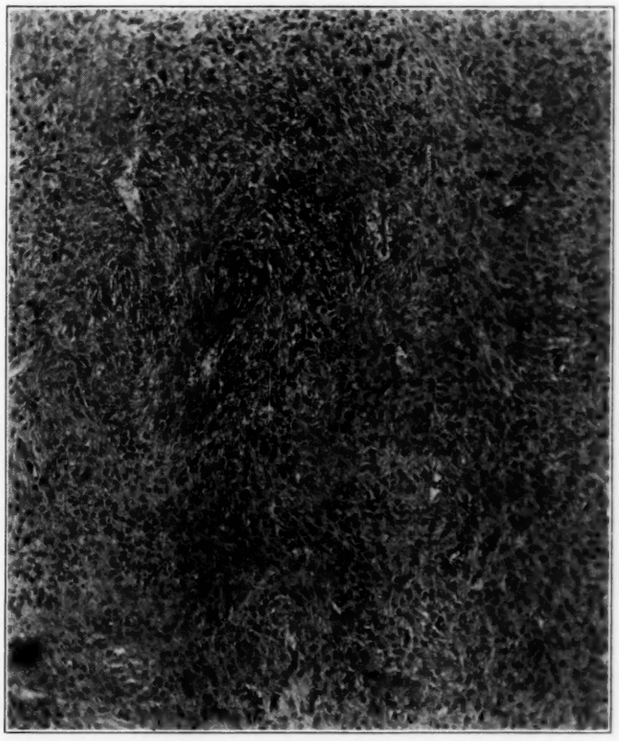

Fig. 2.—Section of leiomyosarcoma of the duodenum under higher power than in figure 1.

accepted one in our present day literature there seems to be no reason to drop it. Malignancy, hemorrhage and degeneration are the outstanding characteristics of a sarcoma.

The histologic diagnosis of any sarcoma may be one of the easiest or one of the most difficult tasks that confront a pathologist, depending chiefly on the degree of differentiation. Those showing the least differentiation are usually the most malignant and to them the terms "small round cell sarcoma," "large round cell sarcoma," "mixed cell sarcoma" and the like have been applied. Here again an unsatisfactory nomenclature must be accepted. Conversely, the more differentiated the tumor becomes the less malignant it becomes and, as a corollary, the more it resembles some normal tissue. To these tumors the terms "fibrosarcoma," "myxosarcoma" and the like have been applied.

Hemorrhage in any new growth should arouse one's suspicions that it is liable to prove to be a sarcoma.

The vessels in this type of growth are thin walled, easily invaded and, according to Broders,[8] "the tumor cells grow right up to the vessel walls." Associated with hemorrhagic tendencies is the frequency of mucoid degeneration or, as in our case, liquefaction and suppuration of the tissue.

Leiomyosarcoma, on account of its source of origin in the muscular wall, tends to grow outward so that the lumen of the bowel is not encroached on. This is in contrast to lymphosarcoma, which tends to obliterate the lumen of the bowel.

Treatment.—Surgical removal, when feasible, offers the only hope of a cure. Since most of the tumors are pedunculated, complete removal with a cuff of the duodenum at the site of origin is often possible. If the lumen of the bowel is insufficient after closure of the rent, a short circuiting anastomosis may be made.

SUMMARY

The five cases of leiomyosarcoma that are reviewed and the sixth case that is reported here have many characteristics in common, which are as follows:

1. The usual period during which the patients were aware of symptoms was from seven weeks to three months. In three cases it was three months, in one case two months, in one case seven weeks and in one case it was not stated.

2. The most common site of origin was the third portion of the duodenum.

3. X-ray examination has failed in every instance to show constriction of the duodenum and has been of no aid in making the diagnosis except in one case, that of Brdiczka.

4. The size and shape of the tumor has been that of a fetal head in four cases, of a grapefruit in one case and of a uterus in one.

5. In no case has the tumor had a capsule. Necrosis, abscess formation and fistulization to the lumen of the bowel are common.

6. The growth does not cause stenosis or dilatation of the lumen of the bowel, and it grows by pushing the transverse mesocolon ahead; hence surgical removal without damage to the superior mesenteric artery and its branches is rendered difficult. Trauma to the vessel intima sustained by retraction may lead to thrombosis, which in turn may cause a breaking down in the anastomosis and other necrotic areas in the bowel, as in our case.

7. Four patients have undergone operation; one lived four months and three died within three weeks. Two patients were not subjected to operation; one lived four months and one died in one week. In every case death has been caused by pulmonary embolism or pulmonary thrombosis with one exception, namely the case of Silverstone, in which the cause of death was thyrotoxicosis.

124 Fulton Street, East.

8. Broders, A. C.: Personal communication to the authors.

Applicants Refused for Insurance.—Life insurance companies of the United States declined 335,000 applications for ordinary life insurance in 1937. How many of these who were refused suspected that they were not acceptable for life insurance is, of course, not known. Experience indicates that far the greatest number believed themselves to be in good health. —Sensenich, R. L.: The Quantity and Quality of Life, *Milwaukee M. Times,* April 1939.

STRAMONIUM POISONING

A REPORT OF TWO CASES

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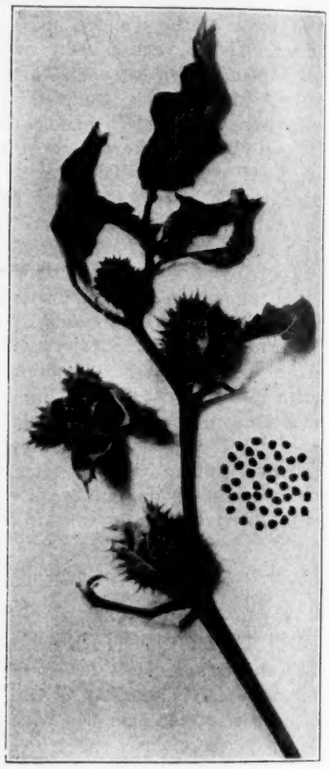
Stramonium poisoning presents a definite clinical entity which has not been emphasized sufficiently in American medical literature. While it is not common, it does occur with enough frequency to warrant a thorough discussion of its manifestations, diagnosis, prognosis and treatment.

This form of poisoning follows ingestion of any part of the Jimson weed, a plant prevalent in this country and in all temperate and tropical zones. Jimson weed is only one of the various names by which it is known. Other names are Jamestown weed, thorn apple, stink weed, devil's apple and apple of Peru. Datura stramonium is the botanical term; the plant is a species of Solanaceae, or nightshade family. It is a large coarse herb which attains a height of from 3 to 6 feet, depending on the richness of the soil, with its branches almost as broad. The leaves are large and angular, from 4 to 6 inches long. The white flowers, which emit a strong sweet scent, are succeeded by egg-shaped seed capsules the size of a walnut and covered with numerous sharp spines. When ripe this seed vessel opens at the top, throwing back four valvelike forms and leaving a long central structure on which are many rough dark brown reniform seeds measuring 2 by 3 mm. All parts of the plant are poisonous, but especially the seeds, which contain the three alkaloids atropine, scopolamine (hyoscine) and hyoscyamine.



Datura stramonium, approximately one-third size.

Probably the first cases of stramonium poisoning reported in this country occurred in 1676 and are recorded by Beverley:[1]

> This being an early Plant, was gather'd very young for a boil'd salad, by some of the Soldiers sent thither, to pacifie the troubles of Bacon; and some of them ate plentifully of it, the effect of which was a very pleasant Comedy; for they turned natural Fools upon it for several Days. One would blow a Feather in the Air; another would dart straws at it with much Fury; and another stark naked was sitting up in a Corner, like a Monkey grinning and making Mows at them; a Fourth would fondly kiss and paw his Companions, and snear

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1. Beverley, Robert: History and Present State of Virginia, 1705, book 2, p. 24.

in their Faces, with a Countenance more antik than any in a Dutch Droll. In this frantik Condition they were confined, lest they in their Folly should destroy themselves; though it was observed that all their Actions were full of Innocence and Good Nature. Indeed, they were not very cleanly; for they would have wallow'd in their own Excrements, if they had not been prevented. A Thousand such simple Tricks they play'd and after Eleven Days, return'd themselves again, not remembering anything that had pass'd.

An outbreak of stramonium poisoning equally striking and deserving particular emphasis because of the possibility of recurrence was described vividly by Garvin and Ruh [2] in 1923. Thirty boys, ranging in age from 6 to 8 years, picked and ate varying amounts of the seeds of the Jimson weed, which grew plentifully in the vicinity of their orphanage. Within a few hours, after the children had been put to bed, pandemonium broke loose. Some of the children began to bark like dogs, others tried to pick objects out of the air, while still others crawled under their beds crying and moaning. The visiting physician administered emetics and most of the patients were normal the next day, but several had a high fever for two or three days. It was noted that all the children had dilated pupils and a deep red flush over the entire body.

Watt and Breyer-Brandwyk [3] described an outbreak among forty-eight mine boys in Southwest Africa who had eaten beans containing the seeds of the stramonium plant. Ismael [4] recorded cases of poisoning from gruel which contained seeds that had been harvested with wheat.

The international aspect of this form of poisoning is reflected in the host of reports which are being added to the literature. Ismael [4] in Egypt, Mukopadhya [5] in India, Estapé and Bloise [6] in Uruguay, Neyron [7] in France, Howle [8] and Parkinson [9] in Australia, Van Ravenswaay [10] in the Netherlands and Grinnon,[11] Wilcox [12] and McNally [13] in the United States are only a few of the observers who have described this syndrome. By far the most complete summary on the subject is that of Jennings,[14] who reviewed the literature to 1935 and added two cases.

REPORT OF CASES

CASE 1.—J. Q., a white boy aged 13, was admitted to the John Gaston Hospital at 7:20 p. m. Sept. 25, 1938, in active delirium. The boy's father stated that the patient had seemed perfectly normal until about four hours before admission, when he rapidly lost consciousness, threshed wildly about and cried out incoherently. No history of premonitory symptoms could be elicited. One month before admission the patient had had chills, fever and sweats, in the order named, apparently malaria, "cured" by Groves chill tonic. There had been no relapses. The night prior to admission the patient, known to be asthmatic, had suffered a slight attack of asthma, which subsided spontaneously in two hours after he had vomited once. The father denied knowledge of all other symptoms, except that he had given his son two compound cathartic pills on the morning of admission, which resulted in one loose bowel movement associated with moderate bilateral lower abdominal griping.

At examination the patient was wildly delirious. He was well developed and well nourished and had an axillary temperature of 99 F., a rapid regular pulse rate of 150 a minute and a respiratory rate of 28 a minute. He was extremely restless, tossing all over the bed, picking at objects in the air and intermittently crying out shrilly. Choreiform movements of all four extremities were present, but there was no twitching of the face. The skin was flushed and dry. There was marked circumoral pallor but no exanthems. We were immediately struck by the extreme and equal dilatation of the pupils, remarking that he looked as though he had had a large dose of atropine. There was no reaction to light. The tongue was very dry and covered on the dorsum by a grayish fur. The mucous membranes of the mouth and throat were also flushed and dry. There were no exanthems. The rest of the examination of the head gave negative results. The neck was slightly stiff. Tachycardia was present, but otherwise the heart was normal. The lungs, abdomen and genitalia were all completely normal. Except for the active delirium, slight rigidity of the neck, choreiform movements and dilated pupils the neurologic examination gave negative results.

The laboratory procedures showed nothing abnormal except for a leukocyte count of 20,700 and an occasional estivo-autumnal malarial parasite. The spinal fluid was clear and colorless, flowed under normal pressure and contained 44 lymphocytes per cubic millimeter.

In spite of the leukocytosis and the bizarre physical signs, we immediately administered 15 grains (1 Gm.) of quinine dihydrochloride intramuscularly into the right buttock, fearing that we might be dealing with the pernicious comatose form of malaria. Three grains (0.2 Gm.) of soluble phenobarbital was given subcutaneously to control the mania, and a liter of 5 per cent dextrose in saline solution was administered every six hours by hypodermoclysis. Within a few hours he was sleeping quietly.

The next morning, twelve hours after admission, the patient recovered consciousness and stated that he did not remember anything that had transpired since 3 p. m. the previous afternoon. Except for marked thirst and blurred vision due to dilated pupils he had no complaints. His temperature, pulse rate and respiratory rate had returned to normal. The skin was no longer flushed, but the mouth was still dry. He drank tremendous quantities of water avidly.

Further questioning at this time revealed that two hours prior to the onset of his delirium he had gone out into a nearby field and had picked Jimson weed seeds, having been told that a tea brewed from these seeds was a sure cure for asthma. His mother poured four level tablespoonfuls of the seeds into a small kettle of boiling water and strained the tea through a cloth before giving him a cup of it. This he flavored with sugar and cream before drinking. He immediately began to feel drunk and had to lie down on his bed. He noticed extreme thirst and nervousness, which became progressively worse until he lost consciousness.

The patient was kept in the hospital for forty-eight hours and was then discharged free from symptoms, with the exception of moderate dilatation of the pupils.

A careful search in the records of the John Gaston Hospital revealed only one other case of stramonium poisoning:

CASE 2.—J. H., a Negro aged 18, was admitted to the John Gaston Hospital Aug. 4, 1937, because of irritability, dryness of the mouth and throat, wide dilatation of the pupils, which did not react to light, and exaggeration of the deep reflexes. The skin was hot and dry. The temperature was 102.4 F., the pulse rate 84 and the respiratory rate 20 a minute. Otherwise the physical examination gave negative results. He gave a

2. Garvin, J. A., and Ruh, H. O.: Acute Poisoning Due to Eating the Seeds of the Jimson Weed (Datura Stramonium), Arch. Pediat. **40:** 827-831 (Dec.) 1923.
3. Watt, J. M., and Breyer-Brandwyk, M. G.: Poisoning by Datura Stramonium L. (Stink-blaar; thorn-apple), J. M. A. S. Africa **1:** 562-563 (Nov. 12) 1927.
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10. Van Ravenswaay, A.: Two Cases of Poisoning by Seeds of Datura Stramonii, Nederl. tijdschr. v. geneesk. **57:** 298, 1921.
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12. Wilcox, H. B.: Two Cases of Stramonium Poisoning, Tr. Luzerne Co. M. Soc. **12:** 167-169, 1904.
13. McNally, W. D.: A Case of Stramonium Poisoning, J. A. M. A. **65:** 1640 (Nov. 6) 1915.
14. Jennings, R. E.: Stramonium Poisoning: Review of Literature and Report of Two Cases, J. Pediat. **6:** 657-664 (May) 1935.

history of having drunk tea made of Jimson weed seeds. Three grains of soluble phenobarbital was administered subcutaneously. Within thirty minutes he was well sedated, and he slept quietly all night. The next morning, eleven hours after admission, he appeared normal except for dilated pupils and said that he felt all right. At that time his temperature was 98.4 F., his pulse rate 88 and his respiratory rate 18. He was discharged from the hospital free from symptoms.

The symptoms, treatment and prognosis of stramonium poisoning have been beautifully reviewed by Jennings. He emphasized that the form in which the drug is taken has a great deal to do with the way it manifests itself clinically. When the seeds or leaves are eaten it may take hours for the symptoms to develop, because of the delay of absorption; when a tea made from the seeds is drunk, as in our two cases, the onset may occur within minutes. There may be variability not only in the time but also in the mode of onset. Poisoning by the seeds usually causes a maniacal picture, while ingestion of the leaves produces a comatose form. The degree of poisoning depends on the total quantity of the active principles of the weed absorbed, the potency of these principles, the promptness and the effectiveness of the treatment and the sensitivity of the patient to the three alkaloids atropine, scopolamine and hyoscyamine.

The maniacal form, as its name implies, is characterized by almost ceaseless and apparently purposeless activity. As in our first case, the symptoms may take the shape of choreiform movements of the extremities, with sudden almost clonic movements of the body. Both clonic and tonic convulsions have been reported by various authors. Associated with these convulsions may be opisthotonos simulating that of meningitis and, if the seizure lasts for any length of time, cyanosis. Patients with less severe involvement may engage in absurd pursuits such as picking at imaginary objects in the air, pretending that they are blowing feathers, laughing senselessly, barking like dogs, crawling under the bed, crying out repeatedly or pacing the room. Occasionally destructive impulses may come to the front, causing the patient to attack his attendants belligerently or to do himself bodily harm. A maniacal patient may rapidly go into coma.

The comatose form varies from mild stupor to profound coma with the loss of conjunctival and corneal reflexes. Depending on the depth of the coma, the patient may be easily aroused or may progress into a state of collapse with failing pulse, subnormal temperature, depressed respirations and deep cyanosis. Death sometimes follows, especially if heroic treatment is not administered without delay.

Two premonitory symptoms should be stressed: progressively increasing thirst and disturbances of vision. The patient may drink enormous quantities of water, as in case 1. Visual disturbances are readily accounted for by the marked dilatation of the pupils. Various other early symptoms have been described, such as a feeling of intoxication, euphoria, irritability, restlessness and fear. An occasional patient may suddenly lose consciousness without having noticed any of these prodromes.

The chief observation on physical examination is excessive dilatation of the pupils. In practically no other condition is mydriasis so extreme. There is no reaction to light or to accommodation. Second in importance is the condition of the skin, which is usually flushed, hot and dry. So vivid may be the diffuse erythema that it may simulate the flush of scarlet fever. Occasionally a nonpunctate scarlatiniform rash is present. The lips, tongue and buccal and pharyngeal mucosa are dry and diffusely hyperemic unless collapse with cyanosis is present. The neck may be slightly stiff, as in case 1. Tachycardia is almost invariably present, the pulse rate sometimes being as high as 140 a minute. According to Ismael, the rapidity of the pulse is the best index of the degree of intoxication. Fever may or may not be present; the temperature has been found to be as high as 105 F. Subnormal temperature accompanies collapse. The respiration is usually increased, but in the comatose form it is frequently depressed. Cheyne-Stokes and Kussmaul breathing have been reported. Vomiting, marked obstipation and urinary retention may complete the picture.

The duration of the symptoms depends on the amount of the active principles of the weed ingested, the potency of these principles, the sensitivity of the patient and the promptness and effectiveness of treatment. Most patients recover in one or two days except for the mydriasis, which may persist for a week or longer. When large quantities of the seeds are not evacuated from the gastrointestinal system, slow continuous absorption of the alkaloids occurs and the acute symptoms may persist for days, ending in collapse or slow improvement. McNally cited the case of a 7 year old boy who died in coma thirteen hours after eating 120 seeds. Other deaths have occurred.

Sequelae are not common. Transitory disorientation may persist for a few days, but usually the higher faculties are not damaged. However, cases of permanent insanity and complete amentia have been recorded.

Treatment to be effective must be prompt. As soon as the diagnosis is made or suspected the stomach should be lavaged with water or with 4 per cent tannic acid solution, which precipitates the alkaloids. While the stomach tube is in situ it is advisable to administer a large dose of magnesium sulfate, in order to sweep the poison out of the intestine. If any difficulty is met in passing the tube, emetics such as ipecac, mustard or apomorphine should be given without delay. A drop of croton oil has been recommended for its purgative effect.

Various sedatives may be employed to quiet the patient. In both of our cases we obtained good results with 3 grains of soluble phenobarbital administered subcutaneously. Paraldehyde by rectum, 25 per cent solution of magnesium sulfate intramuscularly, barbital and other barbiturates have been highly effective. Morphine is contraindicated because of its tendency to cause cerebral congestion and because of its known synergistic action with atropine and scopolamine, two of the three alkaloids of Datura stramonium. It is hardly necessary to add that a dark quiet room is conducive to sedation. Warm packs are thought to be of aid in relaxing the patient and in causing diaphoresis, which hastens excretion of the drugs.

Ismael, who had wide experience with stramonium poisoning in Egypt, recommended the use of pilocarpine as a physiologic antidote. Pharmacologically this drug would seem to be definitely indicated, since it has an antagonistic effect on the parasympathetic nervous system, but, as Jennings pointed out, the dose needed is impossible to determine, since it is so difficult to estimate the amount of poisonous alkaloids ingested. The safest way to give it is in small repeated doses, regulated according to the reaction of the patient. In elderly people it may cause pulmonary edema.

BLOOD SUGAR VERSUS URINE SUGAR

AS OBSERVED IN PATIENTS TREATED WITH PROTAMINE ZINC INSULIN AND WITH ORDINARY INSULIN

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PHILADELPHIA

If one reviews the literature on diabetes, especially the mode of diagnosis, the prognosis and the guidance of its treatment, one will find that the great majority of physicians depend much on the chemical analysis of the urine for sugar (dextrose). Indeed, this procedure has many practical advantages: it is easy to obtain a specimen and the examination may be made by the patient, it can be done within a few minutes and repeated as often as desired by the patient or the physician, it is free from the dangers of infection, and the apparatus is simply carried about.

For many years laboratory workers throughout the world have attempted to construct a satisfactory qualitative and quantitative method of studying substances that simulate reducing carbohydrate (true sugar or dextrose) in the urine. Up until the last few decades a reliable study of the elimination of sugar in the urine has been practically impossible because of the lack of proper or suitable technic.

PRODUCTION OF GLYCOSURIA

Since the adoption of the Benedict and the Fehling tests or some modification of them, physicians and laboratory workers have tried to determine more accurately the individual renal threshold for dextrose so as to enable the physician to calculate the diabetic patient's diet, estimate his insulin dose and govern his activities, thus intimately relating the renal threshold with the problem of the relationship of glycosuria to glycemia.

The term "glycosuria" itself has aroused much speculation. Many physicians use the term to indicate the first appearance of sugar in the urine. Benedict and his co-workers [1] feel that progress in the study of carbohydrate metabolism would be more rapid if the term "glycosuria" could be abolished. Since there is a constant presence of minimal traces of sugar in the normal urine, the term is without special significance and is misleading. They suggest employing the term "glycuresis" to indicate increased sugar, not a new appearance of sugar in the urine.

Peters and Van Slyke,[2] in view of the sharp difference between ordinary excretion and glycosuria, interpret the term "glycosuria" as the extraordinary appearance of dextrose in urine, and they feel justified in retaining the term "glycosuria." They also state that "the reduction of Fehling's or Benedict's copper solution may be due to nonglucose substances such as lactose or pentoses, or to a mere concentration in a urine of small volume per hour, of the unidentified reducing substances present in every normal urine, but ordinarily in too great dilution to affect the copper reagents used." [2]

Sherrill and MacKay [3] state that the normal retention of dextrose in the blood by the kidney appears in all probability to be brought about by the almost complete reabsorption by the tubules of dextrose that is filtered from the plasma in the glomerular filtrate. They feel that this reabsorption is normally not absolutely complete, since Peters and Van Slyke [2] and others have shown that the ordinary urine of all normal persons contains small quantities of reducing substances which could be found by the use of methods sensitive to low concentrations but not by the ordinary qualitative sugar test with Fehling's or Benedict's copper solution. This amount in the urine they state is equivalent to about 0.3 to 1.5 Gm. of dextrose excreted in twenty-four hours in a concentration of from 0.02 to 0.10 per cent and for practical purposes may be considered negative.

In view of the general acceptance of the fact that renal threshold for dextrose is considered to be that concentration of sugar in the blood above which sugar appears in the urine, Sherrill and MacKay [3] conclude from their observation that this threshold for dextrose is that concentration of dextrose in the plasma at which the reabsorption of dextrose by the renal tubules from the glomerular filtrate is insufficient to prevent the excretion of an appreciable quantity of dextrose in the urine. A factor they feel in determining this concentration is the degree of renal activity—not alone the number of functioning renal units but the activity of these or the volume of glomerular filtrate being formed in each individual unit. Van Slyke [4] states that, if the renal tubules are not normally active in the reabsorption, dextrose may get through into the urine even when the blood sugar content registers normal. In that case a condition of renal "glycosuria" exists. Also this not infrequently occurs in patients with the degenerative type of nephrosis.

Page and Corcoran [5] are of the opinion that the presence of sugar in the urine will depend on the efficiency of the tubular mechanism and on the blood sugar level. "From contemporary evidence," they state, "it appears likely that the reabsorption of carbohydrate by renal tubules, like the secretion of phenol red, is dependent upon the presence of some hypothetical body in tubule cells which acts as a transfer mechanism." Ni and Rehberg [6] have shown the content of dextrose in the reabsorbed fluid to vary between 168 mg. and 498 mg. per hundred cubic centimeters; they also have observed greater variations and that sugar reabsorption goes on all the time but that the increase is less and less as the blood sugar gets higher. They are of the opinion that one of the factors determining the reabsorption of sugar may be the difference of concentration between blood and urine at the place of reabsorption. Himsworth [7] concludes from his observation that the concentration of the sugar reabsorbed is determined by the sugar content of the blood in the peritubular capillaries.

Hawkins and his co-workers [8] feel that the only reasonable method of expressing the dextrose in the urine is in the rate of dextrose excreted per unit of

The diets prescribed in this study were prepared under the direction of Mary Ann Carver, B.S., chief dietitian of the diabetic department of the Philadelphia General Hospital. The laboratory details of the experiment were carried out by Daniel Klein, Ph.D., chief chemist of the diabetic department, and his two associates Miss Mildred Inwood, B.S., and Miss Mildred Rose. Drs. Leon Smelo and Philip Gerber gave the author valuable assistance.

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time. Benedict and his co-workers [1] feel that the volume of urine and qualitative tests are of little significance and that the real criterion is absolute quantity of sugar eliminated per hour. Sugar, they say, may undergo variations as wide as 100 per cent or more in absolute amount per hour and in percentage in the urine. They feel that the relationship of sugar in the urine to the ingestion of food must be kept constant during such an experiment and that an accurate measure of the influence of any substance on the excretion of sugar can be determined only by a quantitative determination. Myers [9] believes that the intervals of the examination of the urine should not be much longer than two hours, or a significant sugar increase may be lost in the normal fluctuation for a longer time. Thus, according to Benedict and his colleagues [1] an increase of 15 mg. of sugar eliminated in the first two hours would usually be definitely positive while the same absolute increase in the urine of five or six hours might not warrant a definite conclusion.

DETERMINATION OF RENAL THRESHOLD FOR DEXTROSE

Himsworth feels that in view of the known variations of the blood sugar many investigators have based their conclusions on the presence or absence of sugar in a twenty-four hour specimen, in spite of the obvious inaccuracy of such conclusions. Frank [10] was able to show from observations two different blood sugar levels —one level at which sugar first appears in the urine and the other level at which sugar disappears in the urine; the former was the higher blood sugar level. Since his observations, other investigators have confirmed his results and have established two renal thresholds, one of appearance and the other of disappearance. Sherrill and his co-workers [3] have concluded from their experiments on the determination of the renal threshold for dextrose that "the threshold as a 'normal figure' is a misnomer; also that a normal average for the renal threshold should never be given because it may be misleading." They believe that for practical purposes the renal threshold for dextrose is of clinical interest only when dextrose is detected in the urine, for this indicates either hyperglycemia or a so-called renal diabetes. In the absence of sugar in the urine qualitatively, they feel that the renal threshold has no place. Williams and Humphreys' [11] studies of the renal threshold for sugar in diabetes found no constant blood sugar level for the appearance of urinary sugar. They concluded that diabetes should be controlled on the basis of the blood sugar level rather than by urine tests.

Since it is generally understood that the apparent renal "threshold" for dextrose of normal persons is that concentration of sugar in the blood above which the sugar appears in the urine, the average figures have been variously given for venous blood between 160 and 180 mg. per hundred cubic centimeters. But these figures are subject to much controversy. John [12] notes in a series of 337 cases of ambulatory patients with glycosuria, subjected to a dextrose tolerance test, that in 63 per cent the glycosuria was of the nondiabetic type and in 37 per cent of the diabetic type. He also observed cases in which no glycosuria was detected throughout the dextrose tolerance test, although the blood sugar rose very high, in certain cases above 200 mg. per hundred cubic centimeters. He concludes that there is no such thing as a normal "threshold" but that for all persons there is an individual "threshold." Lawrence [13] gives the average figures for renal "threshold" for sugar at about 0.17 to 0.19 per cent blood sugar and admits that variations occur in diabetes. These changes consist in a raising of the threshold above 0.2 or even 0.3 per cent blood sugar, with the result that urine tests for sugar give little indication of the satisfactory control of the disease, making the patient appear sugar free when the blood sugar is high. Mackay [14] concludes from his observations that the renal threshold for sugar, if there is one, is a much more variable factor than is generally supposed. Glassberg [15] states that the kidney threshold for dextrose shows wide individual differences. It may be below 100 or above 250 mg. of true blood dextrose. It appears independent of age and sex.

Richardson [16] observes that, if a renal threshold above 180 mg. is found, urine examinations cannot be depended on to maintain a satisfactory adjustment. Ward [17] found in routine blood sugar examinations of 257 patients that 110 of these patients had a hyperglycemia and twenty-six patients of the latter group glycosuria. He emphasized the practical value of routine blood sugar studies in the detection of disturbances of carbohydrate metabolism. Goto and Kuno's [18] studies on normal adults found renal threshold for dextrose to be between 114 and 231 mg. per hundred cubic centimeters. Campbell and his co-workers [19] conclude from their observations that the renal threshold for true sugar varies from 99 to 228 mg. per hundred cubic centimeters. Joslin [20] gives the average between 0.16 and and 0.18 per cent of sugar for the whole blood. Levinson and MacFate [21] give for renal threshold from 140 to 200 mg. per hundred cubic centimeters. Holst [22] observed that 70 per cent of the 150 persons who were refused life insurance because of glycosuria were found to have no pathologic condition and that in the remaining 30 per cent of this group diabetes developed in between five and sixteen years. Williams and Humphreys [11] also found persons rejected for life insurance and treated as diabetic patients because of the occasional or even frequent finding in the urine of copper reducing substance with a normal power to utilize dextrose.

Rabinowitch [23] emphasizes the fact in his observations that for certain persons, following the institution of insulin treatment the absence of sugar in the urine ceases to be a reliable index of progress. Major and

9. Myers, V. C.: Proc. Soc. Exper. Biol. & Med. **13:** 178, 1916 (quoted by Benedict, S. R., and his co-workers [1]).

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15. Glassberg, B. Y.: The Kidney Threshold for Glucose in Diabetic and Nondiabetic Persons, J. Lab. & Clin. Med. **16:** 948 (July) 1931.

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21. Levinson, S. A., and MacFate, R. P.: Clinical Laboratory Diagnosis, Philadelphia, Lea & Febiger, 1937.

22. Holst, J. E.: Investigations in Benign Glycosuria, Acta med. Scandinav. **63:** 47-98, 1925.

23. Rabinowitch, I. M.: Observations on the Altered Renal Threshold, Brit. J. Exper. Path. **7:** 352-356 (Dec.) 1926.

Davis [24] have observed diabetes with blood sugar ranges from 333 to 425 mg. per hundred cubic centimeters without glycosuria. Williams and Humphreys [11] say that in severe cases of nephritis patients may excrete small quantities of sugar in the urine, frequently giving rise to the misapprehension that true diabetes exists. Mason [25] found from his observations in acute nephritis

TABLE 1.—*Average Blood Sugar Levels with No Excretion of Dextrose*

Case	Sex	Age	Complications	Insulin per Day: Protamine	Insulin per Day: Ordinary	Insulin per Day: Total	Blood Sugar: 1 Hr.	Blood Sugar: 2 Hr.	Urine Sugar in Grams
41	♀	63	Coronary occlusion	..	..	..	178	153	Negative
39	♀	65	Gangrene of 1-2 toe of left foot	..	..	..	188	138	Negative
21	♀	42	Frontal sinusitis	9	8	17	172	129	Negative
17	♂	66	Cardiac decompensation	24	38	62	203	204	Negative
11	♀	57	Syphilis	11	20	31	191	174	Negative
22	♀	73	Infected callus on left large toe	..	50	50	190	128	Negative
8	♂	71	Bilateral amputation	16	16	32	204	185	Negative
69	♀	57	Cataract of right eye	20	12	32	200	169	Negative
72	♀	81	Second degree burn on right foot	..	10	10	198	172	Negative
75	♀	67	Cardiac decompensation	18	..	18	137	138	Negative
78	♀	70	Diabetic ulcer of foot (right)	10	34	44	254	190	Negative

that in hourly periods after the ingestion of 100 Gm. of dextrose the blood sugar values were elevated from 0.10 to 0.217 per cent without urinary sugar. He concludes that the renal threshold is elevated in acute nephritis. Myers and Bailey [26] found blood sugar levels to range from 0.10 to 0.22 mg. per hundred cubic centimeters with no glycosuria in twenty-three observations on seven patients with interstitial nephritis. Faber's [27] interpretation of glycosuria is conducive to possible error in two directions: "(*a*) Harmless excretion of sugar may be regarded as an incipient diabetes, an error which may have economic, social and, not least important, psychic consequences of a grave nature for the patient; (*b*) it will be just as unfortunate if early diabetes is regarded as benign glycosuria, for the mistake in such cases is often not discovered until the disease has progressed and is perhaps already so far advanced that the most appropriate time to attack and arrest its development has passed."

EXPERIMENTAL OBSERVATIONS

In view of this great diversity of opinion among so many investigators and clinical workers throughout the world concerning the relationship of glycosuria to glycemia in the problem of renal threshold for dextrose, and realizing that treatment of numerous diabetic patients is frequently guided by the results of the chemical analysis of the urine for sugar, my associates and I decided to ascertain in a large number of diabetic patients under our care the relationship of glycosuria to glycemia as produced by their regular prescribed diets and insulin (protamine and ordinary).

Of the large total number of diabetic patients under observation, studies on only sixty-one patients were tabulated because we felt that these were sufficient to explain our conclusions. There were twenty-seven males and thirty-four females; age variations were from 5 to 87 years. The duration of diabetes varied; some were unaware of the existence of diabetes until a few days before they entered the hospital; in others the diabetes had existed from several months to twenty-five years. Many suffered from more than one apparent complication, and the diabetes of the group was of varying severity.

The groups studied were those (1) on protamine zinc insulin, (2) on ordinary insulin, (3) on protamine and ordinary insulin and (4) on diet alone. The insulin (both forms) prescribed was given within fifteen to twenty minutes after meals [28]—the protamine, when prescribed with the ordinary insulin, was given immediately after it. In a few cases protamine zinc insulin alone was given after either breakfast or supper for one meal, while the ordinary insulin was given after the other meal (breakfast or supper). No form of insulin was prescribed for lunch.

We realize that the paramount disturbance in diabetes is in the power of oxidizing the carbohydrate of the meal and that the chief rise in blood sugar and the greatest likelihood of glycosuria, whether in mild or in severe diabetes, occurs usually after the morning meal.[29] In mild diabetes the fasting blood sugar is not infrequently within the normal range, but following the meals it often rises to various abnormal levels.[28] For this reason we obtained our blood specimen for the estimation of dextrose after breakfast (one and two hours), while the urine specimen was taken within the three hour interval after breakfast, after the fasting urine had been discarded.

All the patients under observation emptied the bladder (fasting urine) in the morning before breakfast, after which they ate their regular prescribed breakfast

TABLE 2.—*Average Blood Sugar Levels with Average Excretion of Dextrose Less Than 1 Gm.*

Case	Sex	Age	Complications	Insulin per Day: Protamine	Insulin per Day: Ordinary	Insulin per Day: Total	Blood Sugar: 1 Hr.	Blood Sugar: 2 Hr.	Urine Sugar in Grams
46	♀	60	Infected callus on left large toe	..	..	..	212	224	0.8
25	♀	60	Diabetic ulcer of right foot	20	55	75	182	157	0.4
18	♀	68	Perforated appendix	11	47	58	243	203	0.07
15	♂	72	Malnutrition	..	26	26	267	183	0.18
23	♀	57	Carbuncle on the buttock	15	10	25	180	105	0.8
27	♀	49	Carbuncle on the neck, abscess on the thigh	57	39	96	246	202	0.2
9	♂	58	Carcinoma of the tongue	13	19	32	204	175	0.05
60	♂	70	Gangrene of right great toe	30	..	30	170	179	0.7
31	♀	58	Hysterectomy	..	10	10	228	171	0.6
71	♂	57	Cellulitis of right foot	..	..	..	183	163	0.7
56	♀	57	Bilateral cataract	38	..	38	223	291	0.7
53	♀	63	Infected left large toe	..	60	60	227	189	0.2

followed by insulin (ordinary or protamine or both) if prescribed. An hour later a blood specimen (venous) was obtained and another an hour later (one to two hour specimens) for the estimation of dextrose. All the urine voided within three hours after breakfast was examined for dextrose content in grams.

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28. Sindoni, Anthony, Jr.: Protamine Insulin versus Ordinary Insulin, J. A. M. A. **108:** 1320 (April 17) 1937.
29. Jonas, Leon; Miller, T. G., and Teller, Ida: All Day Blood Sugar Curves in Nondiabetic Individuals and in Diabetic Patients With or Without Insulin, Arch. Int. Med. **35:** 289 (March) 1925.

In our blood sugar estimation we obtained venous blood in preference to the arterial (capillary or cutaneous). We realize that the ideal condition would be to use arterial plasma; but this is not practical, and it has become customary to use the whole blood. The reason for the venous method is that it is the one generally carried out in our department.

TABLE 3.—*Average Blood Sugar Levels with Average Excretion of Dextrose Between 1 and 5 Gm.*

Case	Sex	Age	Complications	Insulin per Day: Protamine	Insulin per Day: Ordinary	Insulin per Day: Total	Blood Sugar: 1 Hr.	Blood Sugar: 2 Hr.	Urine Sugar in Grams
32	♀	48	.....	..	40	40	208	171	1.5
67	♀	55	.....	..	90	90	324	274	2.2
13	♂	55	Acidosis	40	50	90	166	173	1.4
12	♂	24	Retinitis, partial deafness	42	29	71	287	201	1.7
16	♀	61	Infected callus on right large toe	20	44	64	286	260	1.5
49	♀	48	Acidosis	24	46	70	237	167	3.8
47	♂	65	Amputated left leg	..	36	36	224	208	4.1
45	♀	70	Infected foot (right)	15	43	58	330	296	1.9
42	♂	40	Carbuncle on the buttock	12	12	24	190	130	1.7
37	♀	72	.....	21	14	35	287	215	1.4
36	♀	44	Procidentia	10	17	27	187	156	3.0
63	♀	74	.....	..	75	75	244	232	1.3
62	♀	45	Cardiac decompensation	37	22	59	182	193	1.3
51	♀	49	Left perirenal abscess	49	97	146	306	383	3.5
70	♂	45	Infected callus on left large toe	..	45	45	265	199	2.8
50	♂	75	Infected callus on right large toe	..	50	50	200	159	1.6

There is much diverse opinion as to the arteriovenous difference in blood sugar, in spite of the fact that the consensus is that in normal persons the postprandial blood sugar is usually slightly higher in the arterial than in the venous, but in the fasting state the sugar content of the two bloods is usually the same. In moderate diabetes the divergence between arterial and venous blood sugars is diminished, and in severe diabetes it may be absent or even reversed, the venous blood sugar actually exceeding the arterial.[2] Rabinowitch [30] points out that the absence of any arteriovenous difference in the presence of hyperglycemia following the ingestion of dextrose appears to be an indication for the use of insulin. Peters and Van Slyke [2] state that the presence of arteriovenous difference does not preclude but that its absence strongly indicates true diabetes. In view of the fact that our examinations of blood sugar were made following breakfast and were not fasting, and that the blood sugar concentration (postprandial) is usually higher in the arterial than in the venous, we may interpret our venous blood sugar concentration to be lower than the arterial for those on insulin therapy if we accept Lawrence's [31] explanation that insulin restores the normal difference between arterial and venous blood sugar in those diabetic patients in whom it did not exist.

The diets prescribed ranged from 100 to 250 Gm. of carbohydrate, from 60 to 100 Gm. of protein and from 80 to 150 Gm. of fat daily, well balanced, rich in vitamins and all the essential elements.

Thus in our group of patients each averaged approximately a total of three blood sugar examinations for each of the two hours following breakfast and three urine tests for dextrose within the three hour interval. The postprandial examinations (blood and urine sugar) were repeated at intervals of five or more days. In table 5 are tabulated results of separate examinations. Because of the difficulties frequently encountered, especially among the elderly diabetic patients, in obtaining a specimen of urine, we utilized the three hour interval after breakfast for obtaining the urine, withdrawing specimens of the blood at the end of each one and two hour (postprandial) interval.

In our method of administering insulin we tried to avoid the sudden alteration or reduction of the blood sugar levels so as to reduce the possibility that occurs occasionally of instances in which the threshold of appearance is higher than the threshold of disappearance, probably causing glycosuria to occur on one occasion and not in another, with a blood sugar of approximately the same level or value. By preference we slowly reduced the blood sugar level and thereby attained more accurate results.

In the twenty-four hour urine study we took another group of fourteen patients on insulin (protamine and ordinary and the two combined). The total urine voided in twenty-four hours was collected and examined for the number of grams of dextrose. The blood sugar estimations were made one and two hours after breakfast. Not infrequently the fasting blood sugar was taken in conjunction with postprandial blood sugars as shown in table 6.

RESULTS

We observed, as shown in table 1 (zero group), patients with a total average blood sugar level above normal, occasionally over 200 mg. per hundred cubic centimeters at the end of the first or the second hour who had no "spill" or excretion of dextrose in the urine. In the individual blood sugar examinations of these patients following their breakfast (postprandial) practically the same observations were found. Higher blood sugar levels without glycosuria were observed with both forms of insulin therapy (ordinary and protamine zinc insulin) than with either insulin alone or without insulin.

Table 2 classifies a group of patients whose average spill was less than 1 Gm. of dextrose in the urine. This amount of excretion in the urine is often considered of "no significance" by many physicians. But in this group one finds that many of the patients averaging high levels of blood sugar at the end of the first and second hour spilled less dextrose in the urine than did those averaging low levels of blood sugar.

In the separate or individual blood sugar examinations of these same patients, as in case 15 on ordinary insulin, we found that the blood sugar level at the end

TABLE 4.—*Average Blood Sugar Levels with Average Excretion of Dextrose Exceeding 5 Gm.*

Case	Sex	Age	Complications	Insulin per Day: Protamine	Insulin per Day: Ordinary	Insulin per Day: Total	Blood Sugar: 1 Hr.	Blood Sugar: 2 Hr.	Urine Sugar in Grams
29	♂	17	None	12	19	31	219	169	14.07
68	♂	72	Gangrene of right toe	14	52	66	277	223	6.03
43	♀	28	None	11	20	31	345	287	9.5
3	♂	37	Acidosis, right optic atrophy	15	40	55	286	228	6.6
76	♂	18	None	10	25	35	322	330	15.4
75	♂	57	None	..	62	62	260	294	7.0
73	♂	69	Gangrene of both great toes	10	52	62	271	238	9.7
54	♀	77	Osteomyelitis of left great toe	..	60	60	289	280	23.0
52	♀	67	Gastro-enteritis	49	97	146	285	252	5.2

30. Rabinowitch, I. M.: Simultaneous Determination of Arterial and Venous Blood Sugars in Diabetic Individuals, Brit. J. Exper. Path. **8:** 76-84 (Feb.) 1927.

31. Lawrence, R. D.: Effect of Insulin on the Sugar Content of Arterial and Venous Blood in Diabetes, Brit. M. J. **1:** 516 (March 22) 1924.

of the first hour after breakfast rose to 296 mg. per hundred cubic centimeters; at the end of the second hour it descended to 212 mg. with no spill of the dextrose in the urine within the three hour period. At another interval, a few days later, it ascended to 320 mg. per hundred cubic centimeters at the end of the first hour and descended to 234 mg. at the end of the second hour with 17 Gm. of dextrose in the urine. In case 18 on protamine and ordinary insulin at the end of the first hour the patient's blood sugar level was 292 mg. per hundred cubic centimeters; the second hour it descended to 240 mg. with a spill of 0.3 Gm. of dextrose in the urine. At another interval, three days later, at the end of the first hour it was 232 mg. and the second hour 210 mg. with no spill of dextrose in the urine. In case 25, on protamine and ordinary insulin at the end of the first hour the blood sugar was 157 mg. per hundred cubic centimeters; the second hour it descended to 123 mg. and 0.8 Gm. of dextrose was spilled in the urine; at another interval, the next day the first hour the blood sugar rose to 208 mg. per hundred cubic centimeters; the second hour it descended to 180 mg. with no spill of dextrose in the urine. In case 56, on protamine zinc insulin in the first hour the blood sugar level was 162 mg. per hundred cubic centimeters, the second hour 172 mg., and 0.7 Gm. of dextrose was spilled in the urine; at another interval, two days later, it was 284 mg. the first hour and 370 mg. the second hour and 0.6 Gm. was spilled in the urine. In case 71, without insulin the blood sugar at the first hour was 134 mg., 155 mg. the second hour, and 2.8 Gm. was spilled; at another interval, several days later, the blood sugar the first hour was 224 mg., the second hour 206 mg., with no spill.

TABLE 5.—*Individual Blood Sugar Levels with Variations in Quantitative Excretion of Dextrose*

Case	Sex	Age	Complications	Insulin per Day: Protamine	Insulin per Day: Ordinary	Insulin per Day: Total	Blood Sugar: 1 Hr.	Blood Sugar: 2 Hr.	Urine Sugar in Grams
1	♂	75	Gangrene of left foot	14	..	14	240	142	2.1
				18	..	18	262	206	Negative
				18	..	18	240	228	1.4
10	♀	63	Gangrene of large left toe	10	20	30	192	125	Negative
				..	..	..	234	246	0.6
				..	..	..	232	178	2.4
12	♂	24	Optic atrophy, partial blindness and deafness	20	25	45	280	268	Negative
				10	8	18	334	252	0.6
				12	33	45	270	195	Negative
				20	30	50	230	138	3.7
				15	30	45	410	338	1.0
15	♂	72	Malnutrition	..	22	22	232	169	Negative
				..	..	..	288	169	0.2
				..	..	..	320	234	0.7
				..	..	..	296	212	Negative
18	♀	68	Perforated appendix	12	53	65	210	197	Negative
				12	58	70	292	240	0.3
				12	50	62	240	166	Negative
19	♂	65	Duodenal ulcer	24	40	64	240	264	0.4
				24	40	64	236	244	0.4
				24	56	80	228	220	Negative
24	♂	67	Abscess of left foot	12	35	47	163	105	0.3
				14	16	30	186	126	Negative
				..	32	32	206	164	Negative
25	♀	60	Osteomyelitis of left great toe	20	55	75	157	123	0.8
				20	55	75	208	180	Negative
38	♀	62	Uterine prolapse	..	56	56	234	175	1.0
				..	45	45	226	176	Negative
				..	40	40	208	134	0.5
42	♂	60	Cataracts, carbuncle on buttock	10	15	25	222	105	Negative
				..	..	..	184	107	Negative
				10	10	20	202	168	1.3
64	♂	63	Cardiac decompensation; left leg amputated in 1932	..	10	10	210	212	1.1
				..	15	15	162	163	Negative
				..	25	25	212	185	Negative
71	♂	57	Cellulitis of right foot	..	..	..	134	155	2.8
				..	..	..	186	128	Negative
				..	..	..	224	206	Negative
28	♂	70	Carbuncle on neck	12	35	47	240	240	0.5
				..	10	10	193	152	Negative
				..	..	..	204	162	0.8

Thus the amount of excretion or spill of dextrose in the urine after breakfast in relation to the blood sugar levels in the individual patients observed in these cases appears to correspond with that of the patients whose averages are given in table 2, in that many of the patients with high blood sugar levels spilled less dextrose than those with low blood sugar levels.

These patients spilled an average of between 1 and 5 Gm. of dextrose in the urine. There were a few patients with low average levels of blood sugar whose average spill within the three hour period was greater than those with a high level of blood sugar; e. g., compare case 51 with case 49; case 36 compared with the rest with the exception of cases 13, 47 and 62. We have also observed that patients excreting or spilling occasional dextrose in the urine, approximately the same amount within three hours after their breakfast, had variable blood sugar levels at the end of the first and second hour (cases 13, 12, 16, 45, 42, 37, 32, 63, 62 and 50).

In table 4 are grouped those patients who excreted a total average of dextrose in the urine above 5 Gm. In this group are some patients whose average spill of dextrose in the urine was greater with a low level of blood sugar than others with a high level, as in case 29 compared with the rest of the group excepting case 76.

TABLE 6.—*Individual Blood Sugar Levels with Dextrose Excretion in Twenty-Four Hour Urine*

Patient	Sex	Age	Complications	Insulin per Day: Ordinary	Insulin per Day: Protamine	Insulin per Day: Total	Blood Sugar Postprandial: Fasting	Blood Sugar Postprandial: 1 Hour	Blood Sugar Postprandial: 2 Hours	24 Hour Urine Sugar in Grams
M. F.	♀	57	None	18	10	28	...	292	228	13.0
				21	10	31	300	396	304	17.6
I. K.	♀	58	None	27	..	27	100	196	318	Neg.
				30	..	30	...	186	132	Neg.
T. K.	♀	36	None	50	12	62	190	...	284	Neg.
				60	12	72	175	222	178	Neg.
M. S.	♀	50	None	40	10	50	186	250	218	Neg.
				46	20	66	183	...	102	Neg.
E. S.	♀	70	Diabetic ulcer on right large toe	15	..	15	...	390	308	Neg.
				48	10	58	...	326	356	0.5
				38	..	38	...	288	250	2.2
B. S.	♀	46	Amputated left leg	352	..	352	...	...	240	10.4
				200	..	200	...	...	324	Neg.
				140	..	140	...	...	276	Neg.
A. B.	♀	46	None	15	..	15	...	...	183	10.6
				40	20	60	...	...	200	Neg.
				10	12	22	...	...	286	23.0
E. B.	♀	63	None	150	40	190	...	...	232	Neg.
				170	60	230	...	...	190	Neg.
O. S.	♀	17	None	55	58	113	192	...	308	Neg.
				50	50	100	68	182	102	4.6
M. B.	♀	63	Diabetic ulcers on both feet	27	10	37	160	252	200	19.2
				30	10	40	...	254	200	Neg.
E. B.	♀	39	Hysterectomy	110	10	120	280	340	310	16.3
				120	30	150	252	340	320	64.0
				115	15	130	...	...	292	20.8
N. C.	♀	47	Diabetic ulcer on right foot	10	..	10	...	234	204	Neg.
				13	..	13	126	192	257	Neg.
				10	..	10	...	200	131	Neg.
I. F.	♀	63	Osteomyelitis of phalanges of 3d right toe	63	20	83	...	210	190	Neg.
				80	20	100	...	183	210	Neg.
				..	..	..	...	212	178	Neg.
M. C.	♀	64	Cellulitis of left great toe	10	..	10	...	236	240	Neg.
				13	..	13	...	210	157	Neg.

In this group are also patients whose average blood sugar levels were lower but who were excreting more dextrose than many of those with higher blood sugar in other tables (those in the group in table 3 whose average spill was between 1 and 5 Gm.). A few also in table 2 who spilled less than 1 Gm. approached the blood sugar levels of those in table 4.

In comparing the average blood sugar levels given in table 4 with the individual blood sugar levels of those

of other groups, such as those in table 5, one finds that many of the patients shown in table 5 at infrequent intervals had higher blood sugar levels with no spill, as in cases 1, 12, 15, 18, 19 and 38.

Table 6 includes a few of the patients whose blood sugar level after meals was far above normal but whose twenty-four hour urine was normal. This was observed in patients given combined protamine zinc insulin and ordinary insulin as well as in patients given ordinary insulin or protamine zinc insulin alone. Blood sugar as high as 390 mg. per hundred cubic centimeters one hour after breakfast was observed with normal twenty-four hour urine on ordinary insulin alone. With the exception of a few, the majority of the patients on the protamine and ordinary insulin therapy maintained moderately higher average levels of blood sugar after meals with normal twenty-four hour urine than those with either form of insulin alone. Our examination revealed that at one interval a patient excreted a variable amount of dextrose although having a lower postprandial blood sugar level than at another interval when the postprandial blood sugar level was high and analysis of the urine negative for sugar. These results occurred not only in different patients but also in the same patient at different times.

(To be continued)

Clinical Notes, Suggestions and New Instruments

NONTROPICAL SPRUE

A. L. BURGDORF, M.D., HARTFORD, CONN., AND THOMAS A. BARRY, M.D., BRIDGEPORT, CONN.

This case of nontropical sprue is reported because of the typical exacerbations with the patient on a faulty diet, the repeated remissions with the patient on a hospital sprue regimen, the association with a previously performed gastro-enterostomy, the marked loss of stature and the not unusual negative postmortem observations. The patient was hospitalized four times for sprue in a period of five years and three months and spent seventeen and one-half months in three different hospitals. The records from all these institutions are here brought together.

REPORT OF CASE

History and Examination.—A man aged 42, a chef, first seen by one of us on his first admission to the King County Hospital at Seattle May 21, 1931, had not been in the tropics. His complaints were diarrhea, weakness, loss of weight, pain in the back and swelling of the lower extremities. For many years he had had stomach trouble marked by postprandial epigastric pain usually relieved by food or soda, and certain types of food were very irritating to him. He recalled having been extremely and dangerously ill in 1918 with a gastric complaint associated with marked vomiting. From 1918 to 1925 he had constant recurrences of gastric pain and vomiting. In 1925 a gastro-enterostomy for "an ulcer of the distal end of the stomach and one in the colon" gave complete relief of previous complaints, but he commenced to have light yellow stools, occasionally but not always of a foul odor. From 1928 to the time of admission his stools had been watery and there were from five to eight a day with no blood or mucus. In the period of six or eight months prior to admission he lost about 40 pounds (18 Kg.). In the past year he had had edema occasionally. He was emaciated, weighing 115 pounds (52 Kg.), and was 5 feet 7 inches (170 cm.) tall, with a markedly protruding abdomen, slight pitting edema of the lower extremities, a shuffling gait and tenderness over an area on both sides of the vertebral column from the ninth to the twelfth vertebra.

Course.—During the first two months of hospitalization a mycelium resembling Monilia psilosis was isolated on one occasion from the stool. Marked anemia of the pernicious type developed, the red cell count falling from 3,750,000 to 2,630,000 and the hemoglobin content from 87 per cent to 50 per cent. The serum calcium content ranged between 5 mg. and 9.6 mg. per hundred cubic centimeters. X-ray studies revealed marked decalcification of the bones, a functional gastro-enterostomy passage and what appeared to be an old compression fracture of the twelfth dorsal vertebra. His edema vanished with bed rest, returned and again disappeared after the administration of ammonium chloride and salyrgan. With cod liver oil and a low fat, low carbohydrate and high protein diet he improved, although diarrhea was intermittently present. He was transferred to the convalescent unit of the hospital, where he received a general diet, radiant heat, general ultraviolet radiation and massage. He was discharged markedly improved. No laboratory data were gathered at the time of discharge.

A summary of the hematologic studies and serum calcium determinations made during his stay in this hospital, together with the determinations made during his subsequent hospitalizations, is presented in the accompanying table.

After his discharge Jan. 3, 1932, the patient was fairly well with a general diet and calcium taken by mouth. His appetite was good. He was physically able to drive an automobile and trailer from Seattle to Huntington, Long Island, N. Y. In November, eleven months after discharge, he contracted influenza and spent two weeks in bed. After this attack he rapidly lost vitality and weight (40 pounds; 18 Kg.). By March 1933, fourteen months after discharge from the hospital, his chronic diarrhea was again well established, the pain in his back had returned, edema of the ankles had reappeared and he was unable to regain weight. He was admitted to the Roosevelt Hospital, New York, December 27, complaining of diarrhea, yellow frothy stools and weakness. He had had a sore tongue and tetanic cramps in his hands for three weeks. His appearance and the results of examination were the same as on his previous hospitalization except that he was now definitely kyphotic and his knee jerks were hypo-active. The musculature was markedly wasted. The blood calcium content was 6 mg. and the serum phosphorus 3.5 mg. per hundred cubic centimeters December 28. A blood count showed 2,700,000 red cells per cubic millimeter, with a hemoglobin content of 65 per cent. With a Turner sprue diet, a reduced iron intake, liver extract given intramuscularly, calcium lactate, viosterol and ultraviolet radiation, in three weeks the serum calcium content had risen to 10 mg., the hemoglobin to 80 per cent and the red cell count to 2,780,000. X-ray studies of his bones again showed marked general osteoporosis. X-ray study of his gastrointestinal tract demonstrated a deformity of the duodenal cap and a functioning gastro-enterostomy passage. May 5, 1934, after a hospital stay of about five months, he was discharged for convalescence to the Burke Foundation, where he remained two weeks.

For the next months he restricted his activities somewhat but was strong enough to walk about daily. His appetite was good; his diet, however, was not always correct, since he frequently increased his carbohydrate at the expense of his proteins, and occasionally the total caloric requirement was not obtainable.

December 13 he reentered the Roosevelt Hospital with a history of having had fainting spells and attacks of unconsciousness, emotional upsets, a decrease in weight from 100 to 88 pounds (45 to 40 Kg.), gas after meals, dyspnea and, during the two weeks before admission, nausea, vomiting and diarrhea.

At this third hospital admission within a three and one-half year period the same physical signs were noted except that his emaciation had increased and his deformity had become accentuated. His blood pressure was 70/46 and his reflexes were hyperactive instead of hypo-active, as on the previous admission. Trousseau and Chvostek signs were absent. The serum calcium content had fallen to 6.3 mg. per hundred cubic centimeters, and a blood count showed 42 per cent hemoglobin and 2,080,000 red cells. During his five week stay he gradually improved and gained weight on a high protein, high vitamin and high calcium diet. His diarrhea was controlled and his general condition improved. His last blood study showed a calcium content of 8.3 mg. and a phosphorus content of 3.95 mg. per hundred cubic centimeters. The hemoglobin had risen to 60 per cent and the number of red cells to 3,100,000. He

left at his own request Jan. 18, 1935, with a diagnosis of recurrent sprue following gastro-enterostomy.

For seventeen and one-half months after discharge he lived outside of a hospital. During this time he attempted to take a high protein diet with calcium and viosterol. He had an occasional moderate attack of diarrhea but rarely vomited and was physically capable of driving a car and of carrying on modified activity. By April 1935 his general condition had improved, his appetite was good, he had returned to a general diet and he was able to resume his occupation on a small scale by making and selling sandwiches in a tavern. In November he again started to fail, lost weight and had a recrudescence of his chronic diarrhea. About Aug. 20, 1936, he had an acute attack of nausea and vomiting accompanied by loss of weight which lasted for one week, at the end of which time he was seized with intense epigastric pain associated with considerable abdominal rigidity. August 27 he was admitted to the Bridgeport Hospital, his fourth and last hospital admission in five years.

His complaint was severe abdominal pain of eight hours' duration. He was poorly developed, extremely undernourished, in no apparent distress, apathetic, cooperative and slightly

Results of Hematologic Studies and Serum Calcium Determinations

Hospital	Date	Hemoglobin, %	Red Cells, Millions	White Cells, Thousands	Differential Count and Smear	Serum Calcium, Mg. per 100 Cc.
King County Hospital, Seattle	5/23/31	87	3.75	6.5	.....	....
	7/ 6/31	..	....	....	.....	5.00
	7/13/31	70	3.50	10.1	80 polymorphonuclears, 15 lymphocytes, 2 transitional forms	5.00
	7/29/31	..	....	....	.....	7.5
	8/ 7/31	..	....	....	.....	9.6
	8/14/31	50	2.63	10.9	Macrocytes, anisocytosis, poikilocytosis	7.35
	8/17/31	..	....	....	.....	7.91
	8/26/31	..	....	....	.....	5.90
	9/ 9/31	60	2.55	15.6	92 polymorphonuclears, 8 lymphocytes	....
Roosevelt Hospital, New York	12/28/33	65	2.70	14.9	88/12 Macrocytes	6.0
	1/ 9/34	..	....	....	.....	7.70
	1/19/34	80	2.78	....	.....	10.00
	2/ 2/34	95	3.70	....	.....	....
	2/14/34	96	3.42	....	.....	....
	2/16/34	..	....	....	.....	8.90
	2/23/34	..	....	....	.....	8.50
	3/16/34	..	....	....	.....	9.70
Roosevelt Hospital, New York	12/13/34	42	2.08	14.6	86 polymorphonuclears, 10 lymphocytes, anisocytosis, macrocytes	6.3
	12/28/34	42	3.10	....	.....	....
	12/31/34	..	....	....	.....	....
Bridgeport Hospital	8/28/36	80	3.35	45.7	99 polymorphonuclears, 1 lymphocyte, macrocytes, toxic granules, metamyelocytes, myelocytes	.... 6.4
	8/29/36	78	3.05	38.75	97 polymorphonuclears, 3 lymphocytes	....

tender over the epigastrium. There was slight spasm of the upper abdominal muscles. Laboratory examinations showed hemoglobin values of 80 per cent and 78 per cent, red cell counts of 3,350,000 and 3,050,000 and white cell counts of 45,700 and 38,750. Among the leukocytes toxic granules were observed, and of the leukocytes 38 per cent were banded types, 23 per cent metamyelocytes, 3 per cent myelocytes and 1 per cent large lymphocytes. The serum calcium content was 6.4 mg. per hundred cubic centimeters.

He failed to respond to any form of treatment and four days after admission died.

Autopsy.—Postmortem examination revealed physical deformities as a result of bone absorption; these were most marked in the vertebral column, so that the body height had decreased 7 inches (18 cm.) after the first hospitalization in 1931.

A posterior gastro-enterostomy passage was identified, but no evidence either gross or microscopic of pathologic change involving the stomach, pylorus or duodenum could be established. There was moderate hypoplasia of the bone marrow with numerous megakaryocytes. Cultures of material from the colon and small intestine were negative for pathogenic organisms.

COMMENT

There appear numerous references in the literature to the sprue syndrome associated with involvement of the duodenum. The possibility exists in this instance, in view of the lack of evidence at autopsy of gross duodenal disease, that the recurrent preoperative and postoperative epigastric distress was a part of the early symptoms of nontropical sprue, of which the more characteristic signs developed later.

THE RELIEF OF ARTHRITIC SYMPTOMS FOLLOWING URTICARIA

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In 1933 Hench [1] reported analgesia accompanying hepatitis and jaundice in cases of arthritis, fibrositis and sciatic pain. The exact mechanism responsible for the improvement in these cases has not been determined.

After this observation he produced artificial jaundice by the intravenous administration of bilirubin. The results obtained, however, were not entirely satisfactory and were not comparable to those observed after natural jaundice.[2] Thompson and Wyatt [3] reported that the results of injections were not as satisfactory when bilirubin was used alone as when it was combined with the sodium salt of dehydrocholic acid (decholin sodium).

It is doubtful, however, that the results of either natural or artificial jaundice are due entirely to the increased serum bilirubin, because relief of symptoms has been observed when there was no evidence of jaundice. In a previous paper I [4] reported that the relief of arthritic pain followed an attack of urticaria induced by cinchophen when there was no evidence of jaundice. In Hench's [1] case 16 complete cessation of pain followed urticaria after administration of cinchophen six weeks before the onset of visible jaundice. Two patients in his series who were given cinchophen experienced relief of the arthritic symptoms before the onset of visible jaundice, but there was no urticaria.

In a study of the relation between cutaneous sensitivity, hepatic function, leukopenic index and toxic effects from cinchophen,[5] urticaria followed the administration of cinchophen in nine cases and there was relief from arthritic symptoms in five of these. There was a slight elevation of the icterus index and serum bilirubin value in some instances, but they remained below the icteric stage. (I considered the normal icterus index to be between 4 and 8 and the normal serum bilirubin value 1 mg. per liter or below. I have found in my study that jaundice is not usually visible until the icterus index is 20 or above and in most instances around 25.) This indicated, as Hench [1] and I [4] have previously suggested, that the relief obtained in jaundice might be due to other factors besides increased bilirubin.

Consequently it was considered advisable to report in detail cases in which relief followed urticaria, with the hope that this might stimulate further study of the phenomenon.

REPORT OF CASES

CASE 1.—L. B., a woman aged 28, had rheumatoid arthritis involving the hands, elbows, shoulders, knees and feet. Cinchophen 7½ grains (0.5 Gm.) was given three times a day

1. Hench, P. S.: Analgesia Accompanying Hepatitis and Jaundice in Cases of Chronic Arthritis, Fibrositis and Sciatic Pain, Proc. Staff Meet., Mayo Clin. **8:** 430 (July 12) 1933.

2. Hench, P. S.: Effect of Jaundice on Chronic Infectious (Atrophic) Arthritis and on Primary Fibrositis, Arch. Int. Med. **61:** 451 (March) 1938; The Effect of Spontaneous Jaundice on Rheumatoid (Atrophic) Arthritis: Attempts to Reproduce the Phenomenon by Various Means Including "Artificial Jaundice" (Induced Hyperbilirubinemia), Proceedings of the International Congress on Rheumatism and Hydrology and the Bath Bi-Centenary Congress on Chronic Rheumatism, 1938, p. 315.

3. Thompson, H. E., and Wyatt, B. L.: Experimentally Induced Jaundice (Hyperbilirubinemia), J. A. M. A. **109:** 1482 (Oct. 30) 1937. Experimentally Induced Jaundice (Hyperbilirubinemia), Report of Animal Experimentation and of the Physiologic Effect of Jaundice in Patients with Atrophic Arthritis, Arch. Int. Med. **61:** 481 (March) 1938. Induced Nontoxic Jaundice (Hyperbilirubinemia) in Patients with Atrophic Arthritis, J. Kansas M. Soc. **34:** 327 (Aug.) 1938.

4. Rawls, W. B., in discussion on Hench, P. S.: The Effect of Jaundice on Chronic Infectious Arthritis and on Primary Fibrositis, J. A. M. A. **109:** 1481 (Oct. 30) 1937.

5. Rawls, W. B.; Gruskin, B. J.; Ressa, A. A., and Gordon, A. S.: The Relation Between Skin Sensitivity, Liver Function, Leukopenic Index and Toxic Effects from Cinchophen, J. Lab. & Clin. Med., to be published.

for six days (total 135 grains, or 8.7 Gm.), after which severe urticaria developed, lasting seven days. Immediate partial relief (grade 2) [6] of the arthritic symptoms followed the onset of the urticaria, and at the end of seven days the pain, soreness, swelling and stiffness of the joints had almost entirely disappeared (grade 3). This was one of the first cases observed, and the icterus index before the administration of cinchophen was not determined but there was no visible jaundice at any time. On the tenth day following the onset of the urticaria, however, the icterus index was 8.7. The patient remained symptom free for five months and stated that it was the best period she had experienced in several years.

CASE 2.—M. S., a woman aged 68, had mixed arthritis involving the feet, ankles, knees, wrists and hands. Cinchophen 7½ grains (0.5 Gm.) was given three times a day for two weeks (total 315 grains, or 20.4 Gm.), after which severe urticaria developed lasting seven days and involving the entire body. There was complete relief within twenty-four hours after the onset of the urticaria, and the patient remained symptom free for five weeks. The symptoms then returned but were less severe (grade 2) for another three weeks. There was only slight relief from the cinchophen per se but the relief following the urticaria was striking. The liver function tests gave normal results. The icterus index was 6 before and 8 after the administration of cinchophen. There was no visible jaundice at any time.

CASE 3.—A. P., a woman aged 59, had mixed arthritis involving the hands, wrists, shoulders, knees and feet. Cinchophen 7½ grains (0.5 Gm.) was given three times a day for five days (total 112½ grains, or 7.3 Gm.), after which urticaria developed; this was associated with angioneurotic edema of the lips, tongue and mouth and lasted four days. With the disappearance of the urticaria there was marked relief (grade 3) of the joint symptoms, although there had been some increase in the joint symptoms during the attack of urticaria. The relief persisted for six weeks. Liver function tests gave normal results. The icterus index was 5.9 before and 8 after administration of cinchophen. There was no visible jaundice.

CASE 4.—C. O'B., a woman aged 41, had rheumatoid arthritis involving the fingers, hands, wrists, elbows, knees, ankles and feet. Cinchophen 7½ grains (0.5 Gm.) was given three times a day for four days (total 90 grains, or 5.8 Gm.), after which severe urticaria developed, lasting three days. There was complete relief of the arthritic symptoms with the onset of the urticaria, and the patient remained symptom free for nine weeks. The symptoms then returned, but were less constant and less severe (grade 2) during the next six weeks. The galactose tolerance and the bilirubin excretion test gave positive results. The icterus index was 7.2 before and 8.5 after administration of cinchophen. There was no visible jaundice at any time.

CASE 5.—C. G., a woman aged 50, had rheumatoid arthritis involving the fingers, hands, wrists, knees and feet. Cinchophen 7½ grains (0.5 Gm.) was given three times a day for five days, after which severe urticaria developed and persisted seven days. The arthritic symptoms persisted during the urticaria but there was almost complete cessation (grade 3) of these symptoms for seven weeks after the urticaria subsided. The azorubin S, the hippuric acid and the bilirubin excretion test gave positive results. The icterus index was 8 before and 12.5 after administration of cinchophen. There was no visible jaundice at any time.

COMMENT

In five of nine cases of urticaria following the administration of cinchophen there was some relief from the arthritic symptoms, which was far more striking than that obtained with cinchophen per se. There was reduction and in some cases disappearance of swelling, muscle spasm, fatigue, soreness and stiffness of the joints and other conditions with a marked increase in function. The degree as well as the duration of relief varied in different cases. In some there was complete cessation of symptoms, while in others the relief was only partial. The relief from the arthritic symptoms was in general proportional to the severity and duration of the urticaria. The longest period of relief was five months, the shortest three weeks and the average nine weeks. There was no appreciable increase in the icterus index in four cases, and, although there was an increase in the fifth, it remained in the subicteric stage. The relief obtained in these cases was not due therefore to jaundice. Four patients who did not obtain relief had urticaria as severe as did the five who obtained relief. In case 3 the symptoms were worse during the urticaria, although relief was obtained after the urticaria subsided. In case 5 the pain remained the same during the urticaria but was relieved after it subsided. These observations lead one to conclude that the factor which produces the urticaria may not be the same as that which produces relief of the arthritic symptoms. Cinchophen toxicity apparently involves several chemical changes, and it is possible that the chemical reaction in the four cases of urticaria without relief was not the same as that in the cases in which urticaria was followed by relief of symptoms. The reactions responsible for both urticaria and relief occurred in cases of relief following urticaria, whereas only the chemical reaction responsible for the urticaria occurred in those in which there was no relief of symptoms. In cases 1, 2 and 4 these reactions occurred simultaneously, but in cases 3 and 5 they occurred separately.

CONCLUSIONS

1. The evidence obtained in this small series of cases suggests that with cinchophen toxicity there are several definite chemical reactions and that the one which produces relief of the arthritic symptoms during or after urticaria is not the one which produces the cutaneous reaction.

2. Jaundice is not the only means of producing dramatic relief of symptoms in rheumatoid arthritis.

3. The relief from arthritic symptoms following jaundice is not necessarily caused by increased bilirubin alone.

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6. Grade 1 designates slight relief, grade 2 moderate relief, grade 3 definite relief and grade 4 complete relief.

PRODUCTION OF ERYTHEMA AND TAN BY ULTRAVIOLET ENERGY

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The ultraviolet wavelength region from approximately 2,500 to 3,500 angstroms encompasses the wavelengths found to be most valuable in the prevention and cure of rickets, the production of erythema and tan in human skin, the killing of germs, and various therapeutic applications. However, the effectiveness of equal amounts of energy at various wavelengths in this region varies enormously for each of these reactions. Some studies of the relative effectiveness of energy of different wavelengths for some of these reactions have been made, notably for the cure of rickets, the killing of germs and the production of erythema.

Several investigators, including ourselves,[1] have studied the effectiveness of ultraviolet energy in producing erythema, and an "erythemal effectiveness" curve has been tentatively established by combining all the data available.[2] The accepted data for wavelengths longer than 3,150 are of questionable accuracy because the energy of longer wavelengths is relatively low in erythemal effectiveness and available artificial ultraviolet sources are low in energy in the spectral region from 3,150 to 4,000. In therapeutic applications erythema has proved to be a valuable indicator of dosage of ultraviolet; hence it is important to know the relative effectiveness of different wavelengths in its production.

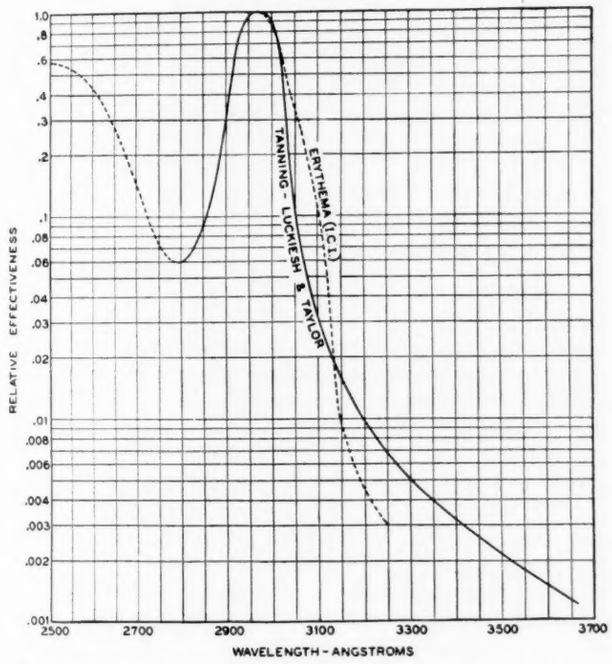
For the foregoing reasons we have extended our previous studies by another research, from which we have established a spectral tanning curve and have extended the spectral erythemal curve in the long wave region. We obtained high energy densities by focusing the image of the arc of an S-1 lamp in quartz or Corex bulb through quartz lenses onto the arm

1. Luckiesh, Matthew; Holladay, L. L., and Taylor, A. H.: Reaction of Untanned Human Skin to Ultraviolet Radiation, J. Optic. Soc. America **20**: 423 (Aug.) 1930.
2. Evaluation of Ultraviolet Radiation, Tr. Illum. Engin. Soc. **30**: 568, 1935.

of the subject, using various glass filters to limit the wavelength region incident on the skin. As a result of exposures of eighteen male subjects, principally between the ages of 25 and 35, we obtained the spectral "tanning effectiveness" curve shown in the accompanying chart. For comparison we also show the "erythemal effectiveness" curve as adopted by the International Commission on Illumination. Our data on tanning apply to the resultant tan as observed from four to ten weeks after exposure, when all erythemal inflammation has disappeared.

Ultraviolet energy in the wavelength region from 2,500 to 2,600 angstroms can cause a strong erythema, visible a few hours after the exposure, but the inflammation subsides and disappears after a few days, leaving little or no tan. We find, however, that the energy of wavelengths longer than approximately 3,300 angstroms, especially that at 3,650 angstroms, produces what appears to be a direct tanning effect. Immediately after an exposure of sufficient intensity and duration the exposed spot appears brownish, approximately the color of tanned skin. The next day the spot is still tanned, with relatively less inflammation than spots exposed to energy of shorter wavelengths.

Although we find that an apparent direct tanning effect with less inflammation can be obtained with the longer wavelengths,



Relative spectral effectiveness of radiant energy in the production of erythema (as adopted by the International Commission on Illumination) and tan (Luckiesh and Taylor).

the energy density and duration of exposure necessary are prohibitive if one desires to become tanned. A much more efficient and effective method is to expose oneself repeatedly to natural or artificial sunlight, making the exposure sufficient to obtain an appreciable erythema.

In order to determine the exposure required to produce a definite tan, visible after two months or more, twelve subjects were exposed to an artificial sunlight lamp (type S-4) at a distance of 2½ feet. Twelve spots on each subject were given exposures graduated in length from two and one-half to ten minutes. The average exposure required to produce a minimum erythema visible one day later was four minutes. The average exposure which produced a minimum tan visible two months after exposure was seven and one-half minutes. Six months after exposure five of the subjects still had spots which were visibly tanned. The ultraviolet rays from this sun lamp are principally in narrow bands at 2,967, 3,022 and 3,130 angstroms. Most of the erythema and tan are produced by the lines at 2,967 and 3,022 angstroms.

Suberythemal doses of ultraviolet rays given three times a week until seven doses were received produced no tan on two persons, but a single exposure of about 70 per cent of the sum of the smaller doses did produce erythema and tan. These results indicate that if tanning is desired the exposures should be long enough to produce some erythema. This is probably true regardless of the type of source, whether sunlight or a sun lamp. Some work done by Dr. H. J. Gerstenberger [3] with which we were in close touch, in which tungsten lamps with ultraviolet transmitting bulbs were used, proved that suberythema exposures or doses of ultraviolet energy can prevent and cure rickets in children. Daily exposures of the order of one-tenth to one-fourth of that required to produce a minimum perceptible erythema were found to be sufficient to bring about recovery.

Special Article

CONFERENCES ON THERAPY

TREATMENT OF ADDISON'S DISEASE

NOTE.—*These are actual reports, slightly edited, of conferences by the members of the Departments of Pharmacology and of Medicine of Cornell University Medical College and the New York Hospital, with the collaboration of other departments. The questions and discussions involve participation by members of the staff of the college and hospital, students and visitors.*

DR. ADE T. MILHORAT: Dr. Loeb of the College of Physicians and Surgeons of Columbia University will open the discussion.

DR. ROBERT F. LOEB: Thomas Addison in 1849 first pointed out that serious disease of the adrenal capsules was incompatible with life; that was an extraordinarily important observation. In 1855 he published his beautiful monograph on Addison's disease, in which his clinical description, typical of most of the English school of clinicians at that time, is incomparable. In that treatise he also pointed out that little was known of the physiology of the adrenal glands except that they were essential for life, and he felt that perhaps the severity of the disease was more or less proportional to the extent of damage in those structures. From that time our understanding of the functions of the adrenal cortex really did not progress until epinephrine was isolated. Then, quite naturally, that advance aroused more interest in the adrenal glands; it was thought that perhaps the lack of this substance from the medulla might be held responsible for the picture of adrenal insufficiency. However, it soon turned out that the blood pressure could not be maintained in the addisonian patient nor could any particular improvement be brought about by the extensive use of epinephrine. The adrenalectomized animals died despite this type of therapy. Perhaps they died a little more quickly than without any therapy. This was an important negative observation because it definitely established that the factors in the adrenal glands essential to life resided in the cortex.

In 1912 Porges in Vienna first pointed out that patients and animals with adrenal insufficiency show from time to time manifestations of low blood sugar. This was, perhaps, the first demonstration of a specific defect in metabolism in contrast to the general observation that the adrenal cortex was essential for life. Naturally, at that time Porges attributed that defect in carbohydrate metabolism to a disturbance in the adrenal medulla. That interpretation does not appear to be correct today.

Perhaps the next significant step was made by E. K. Marshall in Baltimore, who showed in 1916 that in

3. Gerstenberger, H. J., and Horseh, A. J.: The Cure of Infantile Rickets with Tungsten Filament Radiation, J. A. M. A. **97**: 766 (Sept. 12) 1931. Also later results by Dr. Gerstenberger, as yet unpublished.

adrenalectomized animals there was a retention of urea and a decrease in excretion of phenolsulfonphthalein and that death was associated with these manifestations of renal insufficiency. He expressed the idea at that time that perhaps the adrenal cortex had some controlling influence on certain functions of the kidney.

After that the dissection of the physiologic activities of the adrenal cortex progressed rather rapidly. In 1927 Baumann and Kurland showed, in studying the blood of adrenalectomized animals, that a number of changes occurred in addition to the tendency to low blood sugar and to retention of nonprotein nitrogen. They discovered that the blood sodium was low and pointed out that the potassium might be elevated. Then Marine and Baumann in the same year tried various types of replacement therapy and found that their adrenalectomized animals seemed to live longer if they gave solutions of sodium chloride than if they gave other kinds of solution.

Later on, the study of Addison's disease bore out similar facts, namely that the picture of adrenal insufficiency in man (acute adrenal insufficiency) was characterized by dehydration, which had been observed previously, by striking loss of sodium accompanied by a corresponding decrease of chloride and bicarbonate, by an increase in potassium in the blood serum, and by the retention of nonprotein nitrogen, phosphate and sulfate and other substances which are retained in any severe type of renal insufficiency. Also it became evident not only that patients with Addison's disease could have relatively low blood sugar but that they might have severe hypoglycemic reactions, and in recent years we have seen five patients who virtually had hypoglycemic coma at one time or another.

There are some disturbances which appear to be secondary to these fundamental changes. One is the lowering of the basal metabolic rate which usually takes place mostly when the animal or patient is in severe insufficiency. Furthermore there is a decrease in blood flow as well as a decrease in blood volume, which again is perhaps a late manifestation of insufficiency. There are hypochlorhydria, nausea and gastric intolerance, which have been attributed by some to a drop in the chloride ion which accompanies the fall in the blood sodium. There is also hypotension, which usually is present to some degree even when the electrolyte pattern of the blood is entirely normal but which is possibly related to electrolyte and water disturbances.

In addition to the fundamental changes mentioned there is another which is probably also primary in nature; that is the feeling of weakness and lassitude which is the chief complaint of the vast majority of patients with adrenal insufficiency and which is the striking objective manifestation of animals in adrenal insufficiency. This may prove to be entirely dependent on the trouble with salt, water and sugar metabolism. The mechanism of pigmentation which should be considered as primary in nature is totally obscure.

These are some of the changes which follow the destruction of the adrenal cortex in man. Naturally the question arises as to how these errors in metabolism may be corrected. It is interesting not only from a physiologic standpoint but also from the point of view of the patient with Addison's disease. In the last twelve years, extracts of the adrenal cortex have been developed. I might add, however, that Sir William Osler was the first to use an extract of the adrenal cortex in the treatment of a patient. In 1896 Sir William made a glycerin extract of thirty hog adrenal glands and administered this to a man who had Addison's disease. He thought there was some improvement, but the patient died of miliary tuberculosis, for which Sir William was not entirely responsible!

In 1927 Rogoff and also Hartman independently made extracts of adrenal glands, which they felt definitely prolonged the life of adrenalectomized animals and perhaps had some value in the treatment of Addison's disease. In 1929 Pfiffner and Swingle made an alcoholic extract of the adrenal glands which seemed to have considerably more potency. That was heralded as being the turning point in the treatment of a hitherto fatal disease, and the early results from the use of adrenal cortex extract were most dramatic. I think that the enthusiasm died down fairly promptly and it is now apparent that many of the results which were obtained at that time with the use of the adrenal cortex extract might more properly be attributed to the replacement of salt and water in those individuals who were in a state of adrenal insufficiency. The role of the extract was probably not highly significant.

We now know that the dosage of commercial extracts required to maintain an adrenalectomized dog in normal health without salt added to its diet is of an order of magnitude such that if the pharmacologists permitted translation to man, which is probably not permissible, it would take perhaps 50 cc. a day to maintain a large adrenalectomized human being—perhaps even more under certain conditions.

SOME FEATURES OF TREATMENT

The treatment of Addison's disease, as is true in other metabolic diseases, should be directed first toward the correction of the physiologic disturbances which result primarily from the absence of the adrenal cortex. The consideration of the adrenal medulla in this connection does not seem to be important. The next important consideration is that of the specific replacement of adrenal cortical hormones lacking in adrenal insufficiency. The third principle in the treatment of Addison's disease consists of avoiding those factors which are known to intensify the disease picture.

To me these principles are much like those involved in the treatment of diabetes; curiously enough there are many analogies between the treatment of diabetes and the treatment of Addison's disease in man.

In the mild case in which adrenal insufficiency is well compensated, that is, one in which the physiologic disturbances which we can measure are relatively slight, the replacement of the sodium ion, by merely feeding salt, will help the situation. In other words, just correcting this one physiologic disturbance may prove adequate. On the other hand, in the presence of severe insufficiency this measure does not succeed, and it is necessary to add the factor of hormone replacement as far as this is possible.

In treating a patient with Addison's disease, keep in mind that even though he may have relatively mild adrenal insufficiency he, like the patient with diabetes, is more or less perched on the brink of a physiologic volcano. An acute infection, a trauma associated with pain, a surgical procedure or indiscretions in diet will frequently shift the picture quickly from one of compensated adrenal insufficiency to one of a severe adrenal crisis. In the adrenal crisis treatment must be just as promptly and just as actively instituted as in the case of diabetic acidosis, in which neglect or procrastination usually results in death—needlessly I might add.

What else can we do about the physiologic disturbances which are present in Addison's disease? First, diet. Keep in mind that we are dealing primarily with a chronic disease, often tuberculous in origin. I think that the most important consideration in the diet is the maintenance of the patient's nutrition. If the patient's nutrition can be maintained, consider secondarily the theoretical importance of the constituents of that diet. We know, as I have mentioned, that potassium is retained in the body in adrenal insufficiency. It is retained partly because of a disturbance in the ability of the kidney to excrete potassium. It is retained probably also because there is a curious alteration of flow of potassium to the cells. That is nicely demonstrable in recent experiments with desoxycorticosterone acetate, which effects an increase in potassium excretion far greater than could be explained on the basis of loss from extracellular fluid. So there is the disturbance in potassium metabolism, and we know that when one does not excrete the potassium ion (whether one does not excrete it because one has severe renal insufficiency or because one has adrenal insufficiency) if you inject potassium intravenously a fatal elevation in level develops much more readily than in a normal individual. We know that adding several grams of potassium to the diet of an adrenalectomized dog makes it necessary to give either large amounts of sodium chloride or larger amounts of cortical extract, or both, to maintain life. With these facts in mind, and because Wilder and Allers pointed out that the ingestion of a good deal of potassium ion causes a further loss of the sodium ion from the body, the Mayo Clinic developed a low potassium diet, which has a sound theoretical basis. Unfortunately, if there is any ubiquitous ion in our food it is the potassium ion. It is the normal constituent of cells, and to make a potassium-free diet we would theoretically have to construct a diet without cells.

To avoid the usual amounts of potassium in the diet certain foods are restricted, namely dried fruits and dried vegetables, concentrated sauces, condiments, unpolished cereals, large amounts of meat and soups, which are really nothing but potassium juice with a little sodium added. In addition to limiting these foodstuffs at the Mayo Clinic they advise that meats and vegetables be prepared by cutting them into tiny pieces and cooking them in six to eight volumes of water in Patapar bags and then serving them to the patient. But I find that most of our patients are either fussy about their food and do not take it very well in that form or perhaps we have not developed the appropriate culinary arts. Anyway, I think that if a patient can be induced to eat a truly low potassium diet there is a distinct theoretical and also practical advantage in it. However, if you have to choose between having your patient lose weight or eat 2 or 3 Gm. of extra potassium a day, I would recommend that you let him have the potassium and not be in the situation that the Germans used to ascribe to us in relation to the treatment of diabetes in the days of the Allen regimen, when we used to fast them for two weeks. Isn't that right, Dr. Du Bois?

DR. EUGENE F. DU BOIS: Yes.

DR. LOEB: As the Germans used to say, "You in America stick out your chests and pride yourselves because your patients die sugar free." There was something in their point of view.

The carbohydrates of the diet must also be considered. As I have said, patients tend to have hypoglycemia, and I warn you to be on your guard. A patient with Addison's disease, one perhaps with focal neurologic signs or a confusional state, is frequently the subject of severe hypoglycemia. Perhaps the best way to avoid it is to ask patients to eat small supplementary amounts of candy or sugar between their meals and when they go to bed. I am not sure whether this course has really any particular virtue for the patient, because we know that with people who have a tendency to hypoglycemia the blood sugar may decline abruptly during the sleeping hours after carbohydrate administration for the day has stopped. Still we do encourage patients to ingest carbohydrate frequently but I cannot say that we have seen fewer hypoglycemic episodes by virtue of frequent carbohydrate feeding.

To summarize the diet: Calories come first; low potassium diet, if possible, next; and finally adequate carbohydrate.

The role of salt, as I have mentioned, appears to be of considerable importance in the treatment of Addison's disease as it is in the adrenalectomized animal. We know that completely adrenalectomized animals may be maintained without any other factor (no cortical extract) for many months if just given large amounts of salt, sodium chloride or sodium citrate. So also in patients we see many severe crises which are completely relieved by the administration of large amounts of sodium chloride in water without the use of cortical extract. We see this so frequently that we find it impossible to attribute much value to cortical extract in the doses usually given. Most patients with Addison's disease seem to get along for a number of years with no medication other than salt in doses of from 10 to 20 Gm. a day in addition to their meals. Many of them take it in the form of 1 Gm. tablets. They put their ration in their pockets during the day and take one perhaps every hour. Other patients find it more palatable to drink a large volume of salt solution. Very few are able to tolerate capsules.

There is one feature of sodium administration which has been greatly stressed by a number of workers: We know that with the sodium ion decreasing in the blood by virtue of its increased excretion through the kidneys in adrenal insufficiency there is frequently also a drop in the bicarbonate ion as well as the chloride ion, and because of that Wilder and Allers have felt that one should administer a sodium salt without a fixed acid radical in addition to sodium chloride. For that reason they advise the use of sodium citrate or sodium bicarbonate as well as sodium chloride. With this in view I summarized a series of twenty of our patients who were treated with salt alone. The average normal sodium concentration of the serum is 140 milliequivalents per liter, the chloride being about 104 milliequivalents and the bicarbonate being about 26 milliequivalents. The average sodium on admission in the series of addisonian patients was 125.1, the average chloride was 92 and the average bicarbonate was 23 milliequivalents per liter. After these twenty patients had been treated with nothing but sodium chloride, the average sodium at the end of treatment was 138.5, the chloride was 104.1 and the bicarbonate was 25 milliequivalents. In other words, just by administration of sodium chloride the kidney selectively retained the proper anion to restore the normal electrolyte pattern of the blood as it does in the treatment of diabetic acidosis. We know that with the administration of sodium chloride the body will save base, build up the bicarbonate and excrete the excess chloride. Conse-

quently in adrenal insufficiency I do not think there is any need for the administration of the sodium citrate or bicarbonate, but I can see no harm in it.

Finally, a few words about the use of cortical extract. I have already intimated that certain commercial cortical extracts in doses of from 5 to 10 cc. a day have no definite objective physiologic effect. Patients often say they feel better, but they say they feel better with so many things that I do not believe one can ascribe much significance to that statement. I think it is, on the other hand, not to be denied that a little cortical extract must be better than none. However, a dose of 10 cc. a day costs about $3, and if you cannot demonstrate any physiologic effect from it in your patient I am not sure that it is a justified expenditure. The same applies to the treatment of crises; unless you use large amounts you are not doing anything at all significant. I think it is fair in the treatment of the crisis to give intravenously about 4,000 cc. of salt solution with 5 per cent dextrose in the course of twenty-four hours and to add to that from 40 to 50 cc. of cortical extract, and then if the patient is not doing well perhaps to give from 10 to 15 cc. intravenously or intramuscularly at six hour intervals in addition. Thorn has shown that extract in those amounts will cause retention of sodium and an excess excretion of potassium in normal subjects and in addisonian patients, so that we know that amount may produce some effect.

As I have said, I have had this skepticism of the therapeutic value of extract given in the usual dosage. In the past few months, as you probably know, Reichstein has not only isolated from adrenal glands but synthesized desoxycorticosterone acetate and we have had our first chance at a clinical trial in the past few weeks. I must say that the results are both dramatic and encouraging. In one case the administration of 50, 50, 25, 25, 25 and 25 mg. a day,[1] respectively, over a period of six days caused, first, an increase in plasma volume of 15 per cent, an increase in interstitial fluid, if that is what we measure with the thiocyanate method, of about 15 per cent, a gain in weight, a marked retention of sodium and of chloride, and a doubling of the excretion of potassium ion. That was a result of the first two days' treatment in a patient who was stabilized on a metabolic regimen and whose sodium level was stabilized at 132 milliequivalents. Following this initial increase in fluid volume there was an increase in the sodium concentration in the blood to normal, a fall in potassium to normal and a striking drop in the level of nonprotein nitrogen, and the patient showed striking subjective improvement at the end of these six days. Withdrawal of the desoxycorticosterone resulted in a reversal of this process: first a loss of weight, with a loss of sodium chloride, and secondarily a drop in concentration with some rise in the other constituents. Readministration of the drug, then in doses of just 25 mg. a day, again reversed the process. So we know that in that dosage this substance had a striking effect in a man with adrenal insufficiency. Whether it has any effects on carbohydrate metabolism in man is not certain, but if we had to hazard a guess it would be in the affirmative. Whether it has any effect on pigmentation likewise we do not know. Whether it has any effect on peripheral vascular tone we also do not know. Those questions lie for the future to answer, but I will say that we have at last something which is sufficiently potent to convince the skeptic.

1. This material was furnished by the laboratories of Roche-Organon, Inc.

DR. EPHRAIM SHORR: Dr. Loeb has covered the ground so thoroughly that there remains little for me to do except to illustrate, by means of a patient with Addison's disease, those principles of treatment which he has laid down, so largely as a result of his own fundamental work in this field. This patient will permit you to see the phenomena which are diagnostic of the condition. His history is that of weakness of about six months' duration prior to his admission in September 1938. The weakness was progressive with progressive pigmentation of the skin, including mucous membranes of the mouth and tongue, a hypotension on admission of 87 mm. systolic and 67 diastolic, and gastrointestinal symptoms such as anorexia and postprandial distress, with a moderate loss of weight. He was admitted in considerable distress and has since been studied by Dr. Harrison of the Department of Pediatrics, and myself. We have kept a record of his blood pressure taken at frequent intervals and we have results of electrolyte studies on urine and blood during the course of his stay. On admission, in view of his unsatisfactory condition, we deemed it necessary to administer large amounts of sodium chloride and sodium citrate intravenously. There was a short, stormy period until our efforts in this direction, combined with a cortical hormone preparation (Upjohn), finally succeeded in improving his condition. With this therapy the hypotension was succeeded by blood pressures of approximately 120/80. The symptomatic relief was accompanied by a reversal of the electrolyte failure which he presented on admission. His chloride excretion in the urine was greater than his intake. With these therapeutic measures he finally came into electrolyte balance. The amount of cortical extract necessary to achieve this balance was 20 cc. daily, given in two doses of 10 cc. Blood urea, initially elevated, also returned to normal. Gastrointestinal difficulties disappeared and his muscular strength improved sufficiently to enable him to walk about the wards and to climb two flights of stairs.

The dietary regimen which has since been followed has in general adhered to the principles laid down by Dr. Loeb. As pointed out, it is not too easy in the face of the capricious appetites of these patients to keep the potassium content of the diet at the low figures recommended by the Mayo group. We have succeeded in making a diet palatable for him which contains about 3.5 Gm. of potassium a day. The salt content of the diet has been in the neighborhood of 8 or 10 Gm. a day. He cannot tolerate salt in tablet form and this is about as much as he can take with comfort in his food. We should prefer him to take more but are quite satisfied with this present diet, aided by what appears to be a potent cortical extract.

A second point that Dr. Loeb has mentioned as of assistance in diagnosing the presence of Addison's disease has been the effect of the withdrawal of salt on the electrolyte picture. In this patient the effects of the withdrawal of cortical hormone have been striking and characteristic of true Addison's disease. On a number of occasions the cortical hormone has been diminished. Within three days of reducing the cortical hormone from 20 cc. a day to 10 cc. a day, electrolyte failure occurred, with a return of all of the symptoms of the disease. The chloride in the blood fell from 97 milliequivalents to 91 milliequivalents, and the urinary chlorides rose until a negative balance replaced the positive balance in which he was, prior to withdrawal.

During this time the chloride intake was maintained at a constant level. With resumption of the cortical extract in the amounts of 20 cc. a day, these figures again returned to normal. I think it is apparent from this effect that the cortical extract is genuinely effective in this case.

As to the general handling of the case, we are confronted with the problem of the etiologic factor, which is tuberculosis. The involvement is apparently confined to the kidneys and adrenals. The urinary sediment has been found positive for tubercle bacilli by the guinea pig test. The chest is still entirely free of tuberculous lesions, as shown by x-ray examination.

An immediate problem now confronts us. He is febrile and has a severe tonsillitis. With this tonsillitis, which has been of about twelve hours' duration, an unwelcome change in his symptoms has occurred. In addition to the weakness he has become low in spirits. Depression has been a very striking phenomenon throughout in this case and has always been exaggerated during the periods when the hormone was reduced or withdrawn.

The presence of an infection of this sort complicates the treatment of Addison's disease and makes it much more difficult, just as infection in the diabetic greatly increases the severity of the disease and the resistance to insulin. We can anticipate that within the next few days more heroic measures may be necessary to help the patient tide over his infection. It will be of interest to see whether electrolyte studies will indicate that the formerly adequate dosage of cortical hormone will now prove inadequate, just as in a diabetic patient with infection the previous dosage with insulin generally needs to be increased in infection.

DISCUSSION

DR. HARRY GOLD: What were the blood sugar and the blood urea of this patient?

DR. SHORR: On admission the blood urea was elevated, but with therapy it has come to normal limits. In fact, during periods of diminution in cortical extract therapy we have had electrolyte failure without any increase above normal of blood urea. The sugar on admission when he was quite severely ill was 92 mg. per hundred cubic centimeters, which with the method we use here is a high normal.

DR. JANET TRAVELL: I should like to ask Dr. Loeb about the completely adrenalectomized dogs that were maintained on a high sodium chloride intake. Did they also have the reduction in the potassium intake?

DR. LOEB: As I said, Allers and Harrop both independently carried out these studies, and their dogs were on a mixed diet. If you introduce a meat diet, which is a pretty high potassium diet, it becomes more difficult.

DR. TRAVELL: You can maintain them though if you increase the amount of salt?

DR. LOEB: Yes, but I believe Dr. Harrop found it necessary to introduce salt by tube because the salt requirement was so high. There is one thing I should like to emphasize: I do not think the problem with adrenal insufficiency is solved even with desoxycorticosterone. I think you may have seen a paper in the last issue of the *Journal of Clinical Investigation* by Willson and Sunderman. They pointed out that just the withdrawal of water in the presence of salt administration may precipitate a picture of shock in which the sodium concentration of the blood approaches normal. We have had six patients who have died classic addisonian deaths with peripheral cyanosis, hypotension, the whole clinical picture but with a perfectly normal electrolyte pattern in their blood, with the exception of dehydration. Whether or not there will turn out to be a peripheral vascular disorder similar to that seen in histamine shock, in the picture of adrenal insufficiency, and whether this will be controlled by this one cortical hormone I think is an open question.

DR. SHORR: Have you seen the reports in the *Lancet* of the uses of desoxycorticosterone in England by Levy-Simpson?

DR. LOEB: He reported two cases, but I did not feel that the data which he had presented were particularly convincing from the chemical standpoint.

DR. SHORR: The intramuscular mode of administration was employed, which apparently in some of the cases was associated with painful swellings and had to be discontinued.

DR. LOEB: We gave our product subcutaneously, and it was absolutely painless.

DR. SHORR: Capsules also were implanted.

DR. LOEB: Which is also being done by Dr. Thorn in Baltimore with apparently striking success.

DR. MCKEEN CATTELL: I trust the synthetic material will be more readily obtainable and less expensive.

DR. SHORR: Have you had any experience with the oral administration of any cortical hormone preparation?

DR. LOEB: I have seen a patient, who could afford it I might add, take from 25 to 60 cc. of cortical extract a day by mouth and I think 10 or 15 cc. parenterally twice a week go into a typical crisis and then with the administration of salt and more cortical extract come out of it. I was not impressed with the differences in this patient when he was taking large or smaller amounts. Pfiffner years ago pointed out in his calibrated dogs that he found cortical extract more or less effective by mouth. He felt that the necessary dosage was something like 10 to 1 in relation to parenteral administration. Thorn, in his article in *Endocrinology,* intimates that the ratio is probably 3 or 4 to 1. I may be hyperskeptical about the whole thing, as I am not greatly impressed. One thing to be kept in mind in attempting to evaluate therapy is that in this disease, as in other diseases, patients occasionally lived for many years without the advantages of modern therapy. Bramwell reported that a patient with Addison's disease certainly went in and out of crises all by himself, without salt and without extracts. As soon as we have some therapeutic agent that we can give with a hypodermic, post hoc reasoning becomes an almost insuperable temptation.

DR. SHORR: It seems reasonable to anticipate that if one could give enough of the synthetic preparation it could be absorbed by mouth in therapeutic amounts. The chemical composition is so close to that of the sex hormones, which are very well absorbed in the mouth, that we may expect the cortical hormone to be absorbed well also.

DR. LOEB: I think there is no question at all but that our troubles with cortical extract are essentially quantitative in nature as far as the salt and water disturbances are concerned and possibly as far as carbohydrate disturbances are concerned. By this I mean that, if it were possible to administer sufficiently large amounts, striking effects would be obtained. Whether salt, water

and carbohydrate disturbances are going to prove to be the whole story is another matter. I rather doubt it.

DR. H. B. RICHARDSON: What active preparations of adrenal cortical hormone are available on the market?

DR. LOEB: I am sure that the Upjohn, Wilson, Organon and the Parke-Davis material are all potent in animals although there are no comparative assays available. But again I think the problem concerns the amount of material which you can administer to a patient a day. Desoxycorticosterone acetate is so sparingly soluble it has to be given in sesame oil, which is a disadvantage as far as rapidity of absorption is concerned when compared with the available cortical extracts which can be given intravenously. I have asked the chemists about the possibility of shaking desoxycorticosterone into serum to have it available for emergency use, because the slow absorption delays the effects, and in a crisis the present preparation would begin its action too late.

DR. SHORR: It would look as if the Upjohn preparation, which is the only one we have used systematically in this patient, has been effective.

STUDENT: I have heard that in patients with severe burns you sometimes find at autopsy hemorrhage in the adrenal cortex. I was wondering whether those patients when recovered from their burns stood any chance of developing the Addison syndrome.

DR. LOEB: I never heard of one subsequently developing Addison's disease. I should think it unlikely because, whereas part of the picture of shock may be due to an adrenal hemorrhage, exudation of serum from the surface and possibly absorption of necrotic tissue products are probably the chief factors.

DR. GOLD: What are your minimum requirements for the diagnosis of Addison's disease, and are there any conditions other than frank Addison's disease in which cortical hormone is useful?

DR. LOEB: That is a large question. I think that the withdrawal of salt from the diet gives one as good an idea of whether or not clinically significant Addison's disease is present as any test I know. If symptoms of the disease are not strikingly accentuated by this procedure in the course of seven days and if there is no decrease in blood sodium beyond 4 milliequivalents per liter, the diagnosis would indeed seem doubtful. Recently Cutler, Power and Wilder have devised another diagnostic test but I have had no experience with it. Salt withdrawal should not be undertaken in an outspoken case without great caution and the diagnostic test should be undertaken only with the patient under observation in a hospital.

If a patient can tolerate withdrawal of salt for seven days I feel it is unwise to administer cortical hormone. I think Ingle's work is very significant, and I think we may be in trouble if we start using the hormone indiscriminately. Ingle has shown that in the normal rat moderately large doses of cortical extract cause striking atrophy of the adrenal cortex. I feel that in the prolonged treatment of "tired women" and the like the use of cortical extract in significant amounts may prove dangerous. I think it is possible that it may be worth while to study the effect of cortical hormone when it is available in large amounts in the state of shock and in certain other conditions in which there are peripheral vascular disturbances, but I am loath to use it over long periods of time, as I said, in any one who has not well established Addison's disease.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT. H. A. CARTER, Secretary.

SUPREME MODEL SHORT WAVE DIATHERMY NOT ACCEPTABLE

Manufacturer: Scientific Diathermy Corporation, 200 West Thirty-Fourth Street, New York.

An apparatus recently placed on the market is the "Supreme Model Short Wave Diathermy." It is sold to the public and, according to the advertising copy referred to the Council, solicitations are made to radio jobbers for agencies. It is a portable apparatus in a case with a carrying handle. When the front cover is removed there is seen a knob for control, an automatic timer dial and an electric meter. It is of light construction and is equipped with one thermionic tube. The electrodes consist of two oblong pads with a thin rubber coating.

This device is marketed to the public by means of advertising in newspapers under the heading "Arthritic and Rheumatic Pains" and announcing "Free Demonstration." According to the advertising, lay salesmen will demonstrate this unit at the home of any one interested. The advertising pamphlet entitled "Radiant Health from Radio Waves" implies that short wave diathermy is indicated in the following diseases: arthritis, rheumatism, circulatory disturbances, sciatica, neuritis, sinus infection, hay fever, lung pathology (except tuberculosis), prostatitis, colds and general injury. Rapid relief and recovery are cited in some instances. The pamphlet also contains such absurd statements as "Fight off old age! Use short-wave radiothermy!" "With this amazing new invention, painless days are here at last!" "Radio-waves smooth away your pains. Relief is quick and lasting—" "Especially those who could ill afford costly professional treatments, welcome the short-wave machines with heart-felt thanks."

One advertising sheet for the attention of radio jobbers and dealers is quoted:

"Here it is . . . the Biggest News that has come to the Radio Industry in years! Radio Jobbers, Radio Dealers, Radio Servicemen all have watched the Receiver Sales curve DIP . . . they've watched diminishing sales and the smaller profits . . . but today a real opportunity exists in this brand new field of Radio-Thermy!

"The Scientific Diathermy Supreme Model illustrated here lists for $149.50 with regular discounts to Dealer and Jobber. It's easy to demonstrate and as easy to sell!

"Every home is a prospect for this modern miracle, which is recommended for the relief of Arthritis, Rheumatism, Lumbago, Common Colds, and many other ailments.

"If you're looking for a NEW SOURCE OF PROFITS IN 1939 . . . Swing to Radiothermy and you'll swing into big money!"

Although no specific therapeutic agency except heat is cited by which the diseases named are benefited, there is the implication that something different and wonderful is achieved by short wave diathermy, as for example "modern miracle." In the pamphlet there appears to be an attempt to give a great scientific aura to short wave diathermy by reproducing headlines alone, or excerpts of newspaper stories or articles on scientific subjects. In some instances these concern other kinds of therapy. One article quoted from dealt with the use of electrical cautery devices, another with so-called electric massage, and others with fever-inducing apparatus.

Finally, apparent duplicates of testimonials by lay individuals were reproduced and accounts were given in the advertising of the frequent demonstation of the apparatus by laymen to others for the relief of many kinds of ailments. The advertising is typical in general tone of that for common nostrums meant to appeal to the uninformed.

In the opinion of the Council on Physical Therapy, the Scientific Diathermy Corporation is practicing methods that are detrimental to the public interest and rational therapeutics. Sales methods which promote the practice of self treatment of disease by those unqualified to practice medicine appeal to the public with persuasions which are unscientific and may harmfully enhance a feeling of false security on the part of the public.

Such wanton disregard of the best interest of the public probably will not be tolerated after the new food and drug act becomes operative.

In view of the foregoing report, the Council on Physical Therapy voted not to include the Supreme Model Short Wave Diathermy in its list of accepted devices.

Council on Pharmacy and Chemistry

REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT.

PAUL NICHOLAS LEECH, Secretary.

ACIFORM II NOT ACCEPTABLE FOR N. N. R.

Aciform II (Aciform Corp.) is a preparation stated to contain in each cubic centimeter 0.0018 Gm. of formic acid, 0.004 Gm. of iodine, 0.0002 Gm. of sulfur, 0.0001 cc. of "terpene (camphene from Borneol camphor)" and 0.055 cc. of 95 per cent alcohol. In Germany the term "Aciform" is used for two preparations, "Aciform I" being a combination of formic acid, iodine plus "terpenes," and "Aciform II" containing formic acid, iodine, sulfur and a "terpene." The preparation has not been presented by the firm for the Council's consideration.

The advertising distributed by the firm since 1938 has announced this product as a new parenteral therapeutic agent for the treatment of "Acute and Chronic Arthritis, Lumbago, Sciatica, Neuralgia, and the associated Neuro-Muscular Disturbances." It is claimed that "Aciform II" is the result of "many years of laboratory research, and of clinical study in the fields of the physio-chemistry and chemo-therapy of inflammatory conditions in the human body." Only two reports on the results of these investigations have appeared in the scientific literature (Erlsbach, O., and Burger, A.: *Med. Klin.* **33**:1605 [Nov. 26] 1937, and Mayers, L. H., and Livingston, S. K.: The Treatment of Arthritis and Associated Conditions, *Indust. Med.* **8**:75 [Feb.] 1939). These reports are insufficient to support the claim that "Aciform II . . . has been subjected to the most critical tests in the leading medical centers of Europe in the treatment of the indicated diseases, with a record of successes that is reported as falling nothing short of the dramatic" and that this therapy ". . . is so spectacular, that without the unassailable evidence that is constantly being compiled from the experience of clinicians of highest standing, would be well nigh unbelievable."

The following description of the pharmacodynamics of "Aciform II" therapy could not be confirmed despite the availability of a well equipped medical library:

"The inflammation produced in the tissues by acute lumbago, sciatica, and acute and chronic arthritis is marked by certain histological changes. These include stasis, changes in the blood volume and ionization, and alterations in the small blood vessel walls. In addition there is an upset in the osmotic balance, and local tissue edema from the various exudations. The principle of ACIFORM therapy is the restoration of normal circulation, the elimination of toxins resulting from tissue damage, and the production of lymph flow with the resultant removal of tissue edema. This permits cellular repair, re-growth, and return to normal function."

The writer of the advertising also draws on the time-worn phrase "synergistic action of the components," which has been much used to give a scientific color to dubious therapeutic claims. The following quotation from the advertising is a naive admission of the lack of competent evidence for the therapeutic value of Aciform II:

"How many forms of useful therapy do you know that are being widely and successfully employed, that cannot be regimented into the hard and fast grooves of therapeutic theory as laid down in the text books and by accepted medical authorities.

You are, without a doubt, employing some of them for the benefit of your patients. You know they work, regardless of the 'why' and of generally accepted theory."

This admission is repeated in the recent article by Mayers and Livingston, of which reprints have been mailed widely to physicians. In this report it is stated that:

"The mode of action of the new preparation is admittedly obscure and empiric. It is thought that the components in the presence of the terpene are diffused and disseminated in the tissues in an action comparable to that evidenced in greater molecular dissociation. The therapeutic principle of the parenteral acid therapy is *presumably* [italics ours] the restoration of normal circulation in an affected part, the elimination of toxins resulting from tissue damage, and the production of lymph flow with the resultant removal of tissue edema. Such action permits cellular repair and a return to a more normal function. This new therapy has the advantage of producing such results immediately and safely by injection into the involved and adjoining areas."

The literature has been surveyed extensively, but little has been found that would support the claims advanced for "Aciform II" therapy. In Martindale's Extra-Pharmacopeia, 1936 (p. 36), it is stated that formic acid injections are of value in rheumatic disorders. The mode of action is claimed to be similar to that of cantharides in giving tone to muscles and restraining muscular tremors. The exact relationship between improving muscle tone and clearing up an infected joint is not discussed.

Formic acid therapy, like numerous other remedies promoted for "lumbago," "sciatica," and so on, can be dismissed from the armamentarium of pharmaceutic preparations without the slightest chance of depriving the sufferer from these conditions of any possible relief.

The Council declared Aciform II (Aciform Corp.) unacceptable for inclusion in New and Nonofficial Remedies because it is a preparation of unscientific composition marketed under a coined proprietary name with exaggerated and misleading claims of therapeutic value.

Council on Foods

ACCEPTED FOODS

THE FOLLOWING PRODUCTS HAVE BEEN ACCEPTED BY THE COUNCIL ON FOODS OF THE AMERICAN MEDICAL ASSOCIATION AND WILL BE LISTED IN THE BOOK OF ACCEPTED FOODS TO BE PUBLISHED.

FRANKLIN C. BING, Secretary.

ASTORIA BRAND FREE-FROM-PRESERVATIVE GREEN CHERRIES

Manufacturer.—Fruit Products Corporation, Belleville, N. J.

Description.—Bottled, peppermint flavored and artificially colored preserved green cherries; for use in decorating and flavoring foods. No artificial preservatives are used; oil of peppermint, citric acid, U. S. Department of Agriculture certified color and a small amount of alcohol are added. The alcohol is used to dissolve the flavoring.

Manufacture.—The method of manufacture is the same as that described for Astoria Brand Free-From-Preservative Cherries (red) (THE JOURNAL, Sept. 17, 1938, p. 1101).

Analysis (submitted by manufacturer).—The manufacturer reports that the proximate composition of these cherries is essentially the same as for Astoria Brand Free-From-Preservative Cherries (red) (THE JOURNAL, Sept. 17, 1938, p. 1101).

Calories.—1.2 per gram; 34 per ounce.

HOSTESS NEW BLEND BRAND SALAD DRESSING

Manufacturer.—Hostess Products Corporation, Long Island, N. Y.

Description.—Salad dressing containing cottonseed oil, water, cider vinegar, distilled vinegar, sugar, fresh egg yolk, corn starch, salt, tapioca and oil of mustard seasoning.

Manufacture.—Egg yolk, salt, sugar and spices in definite proportions are beaten together at high speed; oil is beaten in, then water and vinegar. The emulsified mixture is combined with formula proportions of a starch paste containing tapioca, corn starch, vinegar, sugar and water, and automatically filled into glass jars.

Analysis (submitted by manufacturer).—Moisture 41.1%, total solids 58.9%, ash 1.8%, sodium chloride (NaCl) 1.4%, fat (ether extract) 42.6%, protein (N × 6.25) 0.9%, reducing sugars as invert sugar 5.5%, total carbohydrate including crude fiber (by difference) 12.5%, titratable acidity as acetic acid 1.0%, lecithin phosphoric acid (P_2O_5) 0.047%, total phosphoric acid (P_2O_5) 0.122%, estimated egg yolk solids 2.6%, estimated egg yolks 5.3%.

Calories.—4.4 per gram; 125 per ounce.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, JUNE 17, 1939

UNSATURATED FATTY ACIDS IN NUTRITION

Since the consideration in THE JOURNAL of the general thesis of the existence of indispensable fatty acids in nutrition,[1] information has been obtained which makes it possible to evaluate more accurately the function of these acids. The earlier work clearly established that the rat does not thrive on diets rigidly devoid of fat but acquires a characteristic deficiency disease. Although the many symptoms of this experimental condition were alleviated by giving a few milligrams of fat to the rats, it was established that the need of the animals was not for fat in general but for certain specific unsaturated fatty acids. The administration of either linoleic or linolenic acid resulted in a cure of the deficiency disease. Moreover, the ineffectiveness of other unsaturated fatty acids and of saturated fatty acids in curing the symptoms led to the suggestion that linoleic and linolenic acids cannot be synthesized in appreciable quantities by warm blooded animals. These fatty acids, therefore, become indispensable for living organisms and assume a position similar to that of certain amino acids, vitamins and minerals as a necessary constituent of a complete diet. The presence of at least one of the two fatty acids is required to promote the normal well-being of experimental animals.

Ample confirmation of the thesis of indispensable fatty acids has been presented, and investigators have expanded the original observations to include the study of other untested fatty acids in an effort to evolve some general conclusions as to why certain fatty acids are capable of curing the "fat deficiency" syndrome while others are not. Arachidonic acid has recently been added to the list of acids capable of alleviating the deficiency symptoms;[2] this fatty acid, administered as the methyl ester, was shown to be approximately three times more effective as a curative agent than is linoleic acid. Other types of unsaturated fatty acids tested were negative with respect to curative power. From a consideration of the results, certain features of a fatty acid molecule seem to be required in order that the substance may be capable of alleviating the fat-deficiency symptoms: at least two double bonds are necessary (linoleic, linolenic and arachidonic acids) and these double bonds must occupy certain positions (positions 9:10 and 12:13, as in the aforementioned acids). Evidently the third and fourth double bonds, as present in linolenic and arachidonic acids respectively, cannot be of any importance because linoleic acid, with two double bonds, is as effective as linolenic acid with three. The fact that arachidonic acid is superior as a curative agent to any other substance thus far tested leads to the tentative hypothesis that the need of the animal body is primarily for this acid. Under these circumstances the other curative fatty acids may be regarded as beneficial by virtue of their conversion to arachidonic acid in the body.

Detailed studies of the essential fatty acids in their relation to the fat-deficiency disease of rats have been recently reported[3] by investigators at the Lister Institute in London. These authors have attempted to compare quantitatively the ability of certain fatty acids to alleviate the principal symptoms of the fat-deficiency disease. In addition, some explanation was sought for the specific curative action of certain fatty acids. Although the latter goal has not been attained, the quantitative nature of the investigation, together with the large amount of data presented, mark these contributions as noteworthy. The English investigators employed resumption of gain in body weight and healing of skin lesions as criteria of the efficacy of certain materials to supplement the fat-free diet. It was demonstrated that methyl linoleate was much more potent and lasting in action than methyl linolenate; the latter was approximately one sixth as potent as the former. A study was also made of the ability of various oxidation products of linoleic acid and linolenic acid to alleviate the deficiency symptoms. It seemed possible that an oxidation product might be formed as a further stage in some metabolic process and that these products might be of some significance in elucidating the part played in metabolism by these unsaturated fatty acids. However, the oxidation products that were tested failed to benefit cutaneous lesions and were ineffective in prompting increase in weight. However, a fatty acid containing twenty-two carbon atoms and six double bonds, isolated from cod liver oil, was found to be potent in promoting increase in weight but to have little or no action in curing lesions of the skin. This leads to the interesting conclusion that the capacity of unsaturated fatty acids to supplement a fat-free diet in promoting gain in body weight is not necessarily associated with ability to heal skin lesions.

1. Essential Fatty Acids, Current Comment, J. A. M. A. **100:** 1342 (April 29) 1933.
2. Turpeinen, Osmo: J. Nutrition **15:** 351 (April) 1938.
3. Hume, Eleanor M.; Nunn, L. C. A.; Smedley-Maclean, Ida, and Smith, Hannah H.: Biochem. J. **32:** 2162 (Dec.) 1938.

As another step in elucidating the role of the essential fatty acids in metabolism, the Lister group [4] has also determined the nature of the fatty acids stored when the rats were kept on a fat-deficient diet and has studied the alterations which occurred in these stored fatty acids when the curative acids were fed. The livers of the animals fed a fat-free diet contained no fatty acids with four or more double bonds. When small doses of methyl linoleate supplemented the fat-free diet, however, fatty acids of four or more double bonds were deposited in the liver fat. Similar results were obtained when methyl linolenate was used as the dietary adjunct. From these thorough investigations it appears that, whereas the essential linoleic or linolenic acids may have some direct effect on the skin, their main function is to supply material from which higher and more unsaturated fatty acids may be synthesized. Moreover, since in the fat-deficiency disease there is an inability to store fat, it seems evident that the more unsaturated fatty acids have some influence in enabling the organism to store fat in its depots and tissues.

4. Nunn, L. C. A., and Smedley-Maclean, Ida: Biochem. J. **32**: 2178 (Dec.) 1938.

ORIGIN OF THE STEROIDAL HORMONES

Significant among recent developments in chemistry has been the demonstration of the close similarities existing among the chemical structures of many physiologically important compounds. This resemblance extends in many instances into the realm of physiologic function. Particularly striking in this respect are the sex hormones and the hormonal substances of the adrenal cortex. All these compounds contain the steroid nucleus. Moreover, the similarity is further emphasized by the clinical syndrome of adrenal virulism, by the ability of certain of the sex hormones, e. g. progesterone, to restore the adrenalectomized animal, and by the recent actual isolation of progesterone as a constituent of adrenal cortical tissue. The problem of the origin of the steroidal hormones in the organism is therefore important. The processes by which the mammalian organism synthesizes these relatively complex molecules would, if understood, contribute greatly to understanding synthetic reactions in the body.

In the light of their chemical structure the steroidal hormones may arise from the degradation of cholesterol. The ubiquitous distribution of the latter steroid, containing the cyclopenteno-phenanthrene nucleus, and the presence of this nucleus in the sex hormones and in those of the adrenal cortex, makes this hypothesis of the origin of the steroidal hormones of particular interest. Indeed, from the point of view of theoretical organic chemistry it is possible to represent a mechanism for the conversion of cholesterol to a compound of sex hormone-like or adrenal cortical hormone-like activity. Moreover, actual experiment has demonstrated that certain of the steroidal hormones and related substances with physiologic activity may be prepared by the degradation of cholesterol and other sterols.[1] It has been claimed [2] that cholesterol may be converted by enzymatic actions into sex hormones.

Notwithstanding the evidence supporting this interesting hypothesis, certain objections to adopting this theory unequivocally become apparent. From a consideration of theoretical organic chemistry it is difficult to visualize the mechanism by which necessary oxygen atoms may be substituted into the steroid nucleus, a reaction required for supporting a biologic origin of the adrenal cortical substances from cholesterol. Moreover, the drastic conditions which must be employed in the laboratory to oxidize the side chain of cholesterol may be construed as an argument against the occurrence of this reaction in the organism.

In order to circumvent the objections to cholesterol as the "mother" substance of the steroidal hormones, Marker [3] has recently made some new suggestions regarding the origin and interrelationships of the steroidal hormones. During the past two years this investigator and his colleagues, working at the Pennsylvania State College, have published a long series of noteworthy papers dealing with investigations of the steroids in the urine of various species. Numerous reduction products of progesterone have been isolated. With the establishment of the structure of each of these compounds has come strong support for the suggestion that these products are all formed by biologic reduction of progesterone. Moreover, it is possible to hypothecate these reduction processes via reactions which are in good agreement with transformations known to occur in vitro. From urine there have also been isolated compounds the structures of which indicate that androstenedione, the corresponding parent male hormone, and also the cortical hormone, may undergo biologic reduction. From a consideration of the structural interrelationships among the many steroids isolated from urines and reported present in gland extracts, Marker postulates a hypothetical substance as the precursor of the steroidal hormones. The structure of this suggested precursor is closely related to the configurations of the known sex and adrenal cortical hormones; it is that of a substance with steroid nucleus and containing highly reactive groupings which are particularly susceptible to reduction reactions.

The logic of the arguments proposed by Marker in support of his hypothesis are, for the most part, sound. In some instances theoretical reasoning is employed which is criticized as being unreasonable. This is true in connection with certain reactions commonly considered as vigorous laboratory transformations and also in the suggestion of an involvement of enzymes in some

1. Koch, F. C.: Physiol. Rev. **17**: 153 (April) 1937. Steiger, M., and Reichstein, T.: Helvet. chem. acta **20**: 1164, 1937.
2. Rondoni, P.; Carminati, V., and Corbellini, A.: Ztschr. f. physiol. Chem. **241**: 71, 1936.
3. Marker, R. E.: J. Am. Chem. Soc. **60**: 1725 (Aug.) 1938.

of the stages of steroid transformations. Nevertheless the arguments of Marker are thought provoking and serve to correlate the mass of data accumulated in his laboratory. Such ideas stimulate suggestions for future investigation of the important problem of the biogenesis of the steroidal hormones.

THE PLACE OF SULFANILAMIDE IN CHEMOTHERAPY

The recent review of Marshall [1] on the pharmacology of sulfanilamide correlates a vast amount of experimental work dealing extensively with the experimental results which form the basis for the intelligent use of sulfanilamide and related drugs in certain bacterial diseases. Interest in the search for drugs as bacterial chemotherapeutic agents was aroused thirty-five years ago by Ehrlich's results in chemotherapy. Marshall points out however that, despite the advances which have been made in the chemotherapy of protozoan infections since Ehrlich's time, the development of greatest practical importance in bacterial chemotherapy was the introduction, within the last few years, of drugs containing the sulfonamide group. Neoprontosil and sulfanilamide were at first thought to be specific against the beta-hemolytic streptococcus; however, subsequent investigation has indicated that these drugs or allied compounds may be effective against infection due to several different genera of bacteria. The efficacy of sulfanilamide in experimental mouse infections due to the meningococcus, gonococcus, Eberthella typhi and paratyphi B, Clostridium welchii, the Sonne strain of dysentery bacillus, and the staphylococcus seems to be well demonstrated. With regard to pneumococcic infection with types I, II and III in mice, the drug appears to possess some activity, although different investigators do not agree on the magnitude of the effect.

Sulfanilamide resembles urea and ethyl alcohol in its equal distribution in the organism, apparently diffusing readily into all tissues and fluids of the body. Although the acute toxicity of sulfanilamide under certain conditions has been studied on many varieties of animals, comparatively little information is as yet available with regard to the effect of repeated doses and chronic toxicity. While it is true that drugs may sometimes produce toxic effects in human beings which cannot be predicted from animal experiments, the value of such experiments in avoiding harmful effects in man is well known. Additional animal experiments will undoubtedly help to make the use of sulfanilamide as safe and effective as is compatible with its chemical constitution. With regard to the mechanism of the action of sulfanilamide, comparatively little is known. In this connection Marshall believes that the balance of evidence indicates that sulfanilamide affects the invading organism as a result of bacteriostatic or bactericidal action which, in many cases, is not sufficient to effect sterilization without the cooperation of the defensive reaction of the host. The relative roles assumed by these two factors probably vary, depending on different conditions of infection and concentration of the drug.

In the main, the results obtained with sulfanilamide and allied compounds in experimental infections in animals have been duplicated in the treatment of certain infectious diseases in man. Sulfanilamide has been tried in many types of disease; according to Marshall it is yet too early and the cases are too few to assess fully its value in most of the conditions investigated. The advent of sulfanilamide and related compounds has, nevertheless, altered in a favorable sense the prognosis of hemolytic streptococcus as well as other bacterial infections; furthermore, it has demonstrated the possibility of effective chemotherapy for bacterial diseases.

1. Marshall, E. K., Jr.: Bacterial Chemotherapy: The Pharmacology of Sulfanilamide, Physiol. Rev. **19**: 240 (April) 1939.

Current Comment

BACTERIAL EXAMINATION OF EATING UTENSILS

In a survey of the bacteriology of eating utensils, Carlisle and Hartinger [1] followed the technic employed by Cummings and Yongue, using brain-veal agar and plain agar in petri dishes as the culture mediums. The cultures from "clean," recently washed plates, cups, glasses and spoons which had been handled but not used for meals showed a total bacterial count for the entire surface of the plate, cup, glass or spoon ranging from 64 to 110, whereas cultures from used unwashed utensils showed a content ranging from 38,000 to 190,000. Dishwater remaining after washing dishes which had been handled and used by patients and personnel showed a bacterial count of 80 per cubic centimeter. This is below average expectation and means that few bacteria survive the exposure to hot soapy dish water. Dishes that were washed in hot soapy water at 172 F. and then rinsed in hot water at the same temperature were found to be sterile. Contamination found on unused utensils which had been handled but were still unused was due to ordinary air and hand contamination; pathogenic organisms were not found. Although tubercle bacilli were not found on the utensils in the combined ward mess for neuropsychiatric and tuberculous patients, it was recommended that the dishes after being washed in the usual manner at 172 F. be sterilized in a steam sterilizer for at least five minutes at a temperature of 212 F. The survey also demonstrates the necessity of avoiding air-borne and hand-borne contamination as much as possible—a problem which can be met by requiring hand washing prior to the handling of dishes. The cleansing of hands, the prevention of flying dust and the screening of mess hall windows, together with the bacterial examination of "clean" dishes, it is concluded, should constitute a regular routine for the purpose of maintaining a high degree of institutional sanitation.

1. Carlisle, C. L., and Hartinger, A. L.: Bacteriological Examination of Eating Utensils, M. Bull. Vet. Admin. **15**: 294 (Jan.) 1939.

ORGANIZATION SECTION

ABSTRACT OF HEARINGS ON THE WAGNER HEALTH BILL

(Continued from page 2442)

STATEMENT OF DR. BENSON

Dr. Cary:—The next one to speak will speak on the subject of the Care of the Indigent. I present Dr. Robert L. Benson of Portland, Ore., a member of the Oregon State Welfare Commission, and also a member of the Oregon State Board of Health.

Dr. Robert L. Benson, Portland, Ore., member of the Oregon State Public Health Commission and member of the Oregon State Board of Health:—For years I have been a member of the state relief and welfare agency of Oregon under three state administrations of three different political parties. Anything that I can say here is nonpartisan.

Senator Wagner:—May I interrupt you? I am a little curious, and I am sure the chairman won't mind. You said that you worked under three political parties. What is the third one?

Dr. Benson:—Independent. I believe I am familiar with the needs. In Oregon federal participation in general assistance was withdrawn in 1935. Since that time, Oregon has borne the burden of indigent care and has ministered generously to the relief of want. Road funds, liquor revenue and all possible sources of income have been diverted to meeting this demand. They have been difficult years, but in spite of this we feel that we have been successful. The Oregon state budget is still balanced and we are solvent.

The Pacific Coast section has recognized, like most parts of the country, that the millions of destitute people of the nation require material aid. Most urgent of these demands concern adequate shelter, necessary food, essential clothing and fuel. Secondary only to these is the need for medical care.

The following briefly describes Oregon's effective setup for handling the problems of the medically needy: The state relief agency always refers medical problems to its medical member for study and recommendations. He, in turn, has a full time medical adviser whose duty it is to visit all parts of the state to study their respective needs. We also employ a chief medical social worker under medical supervision to direct the activities of the various case workers as they are confronted with persons needing medical attention.

The Oregon State Medical Society is consulted on all important affairs relating to practice among the needy of the state. The society has a special standing committee which meets several times each month with the committee from the state relief agency to decide on policies to be adopted. The two, after collaboration, have a definite detailed plan for handling all questions relating to medical care of the indigent throughout the state.

The results have been gratifying. There has never been a situation that has not been ironed out. Diagnosis and treatment have been made available to the medically needy. Nursing care and hospitalization have been provided wherever needed. As far as possible, the time honored relationship of patient and doctor has been maintained, an exception being in the metropolitan Portland district, where the medical profession cooperates with the medical school clinic. Difficult cases are brought to the metropolitan center for study by a specialist in private practice, in a large number of cases. Autonomy in method of handling is left to the county unit and its medical adviser, subject to approval of the state relief agency.

The financial burden has been borne jointly by the state and the counties without aid from the federal government, usually on the basis of 60-40 or 50-50. Oregon is at present spending for medical care an average of about $1.07 per month for each person on relief, two thirds of which goes for hospitalization. This means an outlay of $4.28 a month per indigent family of four persons. Physicians have in general offered their services freely with the result that their fees outside of Multnomah County, the metropolitan area, have absorbed about 12 per cent of the total medical cost. The expense to the state amounts at present to about $65,000 a month, or a total for 1938 of $795,752.77. It is a small state in population, something over one million.

In the more thickly settled states of California and Washington the situation has been generally similar, but their accounting system is different and does not admit of ready comparison. Their needs are, however, identical with ours and their response to the need equally generous. The medical profession of the Pacific Coast states agrees fully with the profession of the whole country that the millions of people on public assistance throughout the United States must be furnished with adequate medical care. Our chief concern is that such aid shall be in a form that will uphold and improve the high standards of service previously achieved in medical practice.

The National Health Conference, held in Washington July 18, 19, 20, 1938, and which I attended, received five separate recommendations of the Interdepartmental Committee. Number III concerns Medical Care for the Medically Needy, and IV, A General Program of Medical Care with its implication of compulsory sickness insurance. In the Wagner Health Bill we find these two grouped under one heading: "Grants to States for Medical Care." Are we to infer that the proponent of this act undertakes to group indigent medical care and the care of the self-supporting brackets under one category? Again, must the state, to qualify for a grant, obligate itself to accept, besides the universally recognized need for indigent medical care, a program for medical care to income groups which may be incompatible with its local needs? We find such a plan highly objectionable and entirely unnecessary. Those who have had years of experience in relief agencies realize that indigent medical care requires one setup and that the self-supporting group must be handled in an entirely different way. It is essential that they be kept separate.

In conclusion, we are entirely in sympathy with the humanitarian principle of ministering in a generous measure to the medical needs of the indigent. Such care should be in the hands of the medical profession. Medical care of the lower self-sustaining brackets is a separate problem and should be met by a voluntary prepaid plan within the option of the state in which it is to operate. For the higher paid brackets of the population there is no need for any provision which will undermine self determination and independence. The advanced achievements and high standards of medical practice should be maintained at their present level and encouraged to further strides.

We shall be glad to further scientific medical progress in every possible way, but we cannot fail to oppose a proposal such as S. 1620, which will supplant these high standards by a system which is vague, visionary, inordinately extravagant and subversive of the best interests of an independent and self-reliant people.

Expenditures for medical care as proposed by the Wagner bill involving matched funds have been anticipated in Oregon by the County Judges' Association, which has expressed its inability to admit further large matching programs. The state legislature has expressed itself similarly. In conclusion, let me introduce a letter addressed to me this month by the governor of Oregon, Hon. Charles A. Sprague, as follows:

> In reply to your letter of May 1 with respect to the Wagner bill providing funds for public health administration, I wish to say that in my judgment of the state of Oregon is not in position to increase its contribution in the direction of social security.
>
> Last year about one third of its expenses for general assistance went for medical aid and hospital care. If these funds could be regarded as the state's contribution on a matching basis, we would receive additional sums from the federal government for use in the state.
>
> We are not unmindful of the need of proper care of the poor, but the tax burden which has been assumed for general social welfare purposes is as heavy as can well be sustained by our people.
>
> CHARLES A. SPRAGUE, Governor.

I close by stating that, while we have due regard for the need of adequate care for the needy, the feeling in Oregon in general is not in favor of greatly increased cost, and, as we are all aware, confining myself to the care of the indigent, there is proposed here for the first year $35,000,000 for medical care and unlimited amounts thereafter, and there is no provision as to

whether that will all go to the care of the indigent. Our concern is that these needy people, the really indigent, shall have whatever care is offered.

Senator Ellender:—Doctor, I am much interested in the Oregon plan that you have outlined. You say that the state contributed to the extent of about $100,000 per year?

Dr. Benson:—To what?

Senator Ellender:—Medical care.

Dr. Benson:—No, it is about $800,000.

Senator Ellender:—How is that money distributed as among the counties of your state? What is the yardstick?

Dr. Benson:—The county puts in a budget, and that budget is gone over and audited and passed on by the State Relief Agency. There is not a great deal of trouble in doing that.

Senator Ellender:—All of the counties of course do not get the same amount?

Dr. Benson:—No.

Senator Ellender:—It depends on their needs?

Dr. Benson:—It depends on their needs, yes, sir.

Senator Ellender:—What kind of service is furnished to these people?

Dr. Benson:—That is left to the local option, but in general we have a system under which the physicians have agreed locally to a fee schedule that will make possible care for all of these people under the budget at hand.

Senator Ellender:—Do you fix the fees?

Dr. Benson:—Yes, sir, we have a schedule of fees.

Senator Ellender:—In other words, those doctors take care of these indigents, the fee is fixed by the state?

Dr. Benson:—No, sir.

Senator Ellender:—How is it fixed?

Dr. Benson:—This fee has been fixed by the local medical society, the state medical society.

Senator Ellender:—Are the doctors paid out of this $800,000 that is raised by the state, and then the counties contribute?

Dr. Benson:—That is right.

Senator Ellender:—Does the same go for hospitalization?

Dr. Benson.—Yes, sir.

Senator Ellender:—Is that plan working well in Oregon?

Dr. Benson:—I think it is working very well. Of course it is not giving all of the aid that we would like to give, but I think we can say that the percentage who go without needed medical care is extremely low.

Senator Ellender:—But you could give better service and have better results if you had more money?

Dr. Benson:—Yes, sir.

Senator Ellender:—To what extent have the state agencies taken advantage of the Social Security money that is now being furnished to the state?

Dr. Benson:—We are using it.

Senator Ellender:—Is there any evidence of federal control in the state of Oregon by virtue of the use of this federal money?

Dr. Benson:—Yes, quite a bit.

Senator Ellender:—What is that?

Dr. Benson:—Quite a bit?

Senator Ellender:—All right. Will you tell us to what extent there is?

Dr. Benson:—I probably could not tell you to the entire extent which it has been done.

Senator Ellender:—No, but you have been in the state department for three administrations.

Dr. Benson:—I have not been in charge; I have been a member.

Senator Ellender:—You have been connected with it?

Dr. Benson:—Yes, sir.

Senator Ellender:—Tell us to what extent the federal government has shown control over the state agency by virtue of furnishing this money that your state does get under this law.

Dr. Benson:—The federal government is not participating except in certain programs.

Senator Ellender:—What programs?

Dr. Benson:—Old age.

Senator Ellender:—I am talking about the maternal and child care. I think under the bill they are now getting $3,800,000 for those services. Is the state participating to any extent in that fund?

Dr. Benson:—Yes.

Senator Ellender:—Will you tell the committee to what extent the federal government has tried to take advantage of that?

Dr. Benson:—Not very much.

Senator Ellender:—Can you qualify that? "Not very much" means some, to me. But to what extent has it taken advantage or has it taken control of it or had its hand in the pie, as it were?

Dr. Benson:—I might inform you that that is not under our agency in Oregon. That is under the state board of health.

Senator Ellender:—Would you know of your own personal knowledge if any influence has been used?

Dr. Benson:—I don't know of any at all, Senator.

Senator Murray:—Has there been any criticism by the medical profession that the federal government has interfered in that program?

Dr. Benson:—I imagine there has, Senator. If you think there is any federal or state agency that does not get criticism—you can be sure that there is criticism.

Senator Murray:—But you do not consider it justified?

Dr. Benson:—Well, I have no knowledge of any justified criticism of that control, no. Of course, it is not under our agency; we are not being concerned with it directly.

Senator Ellender:—Doctor, how would you look on a bill, let us say, drafted by this committee carrying out the same principles and the same medical aid that is being afforded now to the people of Oregon under the Oregon plan?

Dr. Benson:—I think that if it were confined to administering to the needy, to the indigent, I think that Oregon would yield to the same temptation that pretty nearly any state would of accepting a gift.

Senator Ellender:—How would you feel about it?

Dr. Benson:—I would be for accepting it.

Senator Ellender:—For accepting it?

Dr. Benson:—Yes.

Senator Ellender:—Your main reason, as I understand you emphasized in your answer to me, was with respect to the need for it; in other words, give it to those communities that want it and can show need for it?

Dr. Benson:—That is right. I want to qualify it further, however, that I would want to be absolutely certain, Senator, that the statement of that need came from Oregon if we are speaking of Oregon, or from any other state—

Senator Ellender (interposing):—Yes, but Doctor—

Dr. Benson (interposing):—Just a minute. I want to finish this answer because this is important to me.

Senator Ellender:—I do not want to cut you off.

Dr. Benson:—I do not believe in the promulgation of any big program that through propagation thrusts itself on states, and I fear that that is the trend in this bill. I think all the aid that the states need, and I know a state that is as honest in its administration as ours has been can be trusted with it, all the aid that would be acceptable to us is an aid that comes through our own application on the basis of a known need that is local, and we do not want any matching funds poured in our direction which would tempt our state and other states to just create a need. That is a temptation.

Senator Ellender:—Under this bill, as I understand it, you would not have any funds poured into Oregon unless it could show a need for it. The bill provides for certain yardsticks, and unless the states applying can measure up to those yardsticks, they are going to get nothing, and it is up to you to show a need for it under the specifications as contained in the bill. Now, if you or anybody else or any other witnesses can propose any other yardstick that would carry out what I conceive the bill has or what I think it has, I would like to have it made certain that no state or no community shall have any of these funds unless there is need for it. Certainly I would not want to advocate that the government collect taxes here and there and just simply pour forth just before the state asked for it; I don't want that.

Dr. Benson:—But here is the thing that you probably do not get here in the capital of the nation, but certainly we get it at home, and it is not only in our state but in all states, whenever it comes to the matching of funds, and we hear this stated time after time, not that we must have that but that we can get that. I am talking of, as I said before, a temptation which they will yield to.

Senator Ellender:—You have cited Oregon as a model state?

Dr. Benson:—One of the model states.

Senator Ellender:—Has Oregon obtained any money from the government that it was not entitled to under the laws since the federal government has gone into this way of trying to help the people of our nation?

Dr. Benson:—Now, I would have to answer that by saying that all things are relative. Needs are relative, and it is so easy for a state to show a need when it comes to a dollar for their 50 cents spent, and when their 50 cents spent suddenly grows into a dollar, there is certainly a temptation to feel a need that they did not need before. I know that is true in Oregon and in other states; it is human nature.

Senator Ellender:—Notwithstanding the fine reputation that you have given to Oregon, still you think that if the opportunity is afforded that they would probably ask for it?

Dr. Benson:—Yes, I do; we are human.

Senator Ellender:—That is your view?

Dr. Benson:—Yes, sir.

Senator Ellender:—Well, there is a lot of weight to that view.

Senator Wagner:—You read a letter from your distinguished governor, and I want to read another letter that came out of the West. I will just read portions of it

> Our experience in dealing with problems of dependency during these past years has impressed upon the health and welfare administrators of this state the significant part that ill health and inadequate health facilities play in the lives of people who are recipients of public assistance. Consequently, in the development of our Social Security Program, we have seen a close working relationship between these two branches of public service. Out of this experience has come the realization that an expansion of public health facilities will play a large part in our future attempts to lessen the economic and social dependency of our citizens.

Further on in this same letter it is stated:

> We have read the material that has been gathered over the past several years by the Interdepartmental Committee on Health and Welfare, and we realize that these exhaustive surveys undoubtedly have brought to the attention of the committee the facts underlying the whole problem and the plans outlined to meet the problem. However, if there is any further information that you believe we might supply, please feel free to call upon us. We shall continue to watch with interest the progress of this constructive legislation.
>
> Sincerely yours,
> CLARENCE D. MARTIN,
> Governor of the State of Washington.

He takes apparently a different view, doesn't he?

Dr. Benson:—No, I do not think so, Senator. That was largely public health, you see. I am, like most members of the medical profession, in favor of enlargement of public health activities. For instance, just to make my point clear, if we were to spend a sum of money to go down in Florida, or any other state—I used to live in Florida and I think of the way the mosquitoes used to bite there and I had malaria there, and I had a fever too both from mosquitoes—if those swamps are to be drained and we can rid them of those diseases, and also of the yellow fever that Florida had that swept away a large percentage of their people, I am for that too, more and more development in a reasonable way of public health.

Senator Wagner:—In anything that I say I do not want you to understand that I question your desire to improve the public health. We are all for that, but we are trying to find a method.

Dr. Benson:—That is what Governor Martin is speaking of there.

Senator Wagner:—He is speaking of the whole program—I did not read the whole letter, but I will read the portions that I did not read previously:

> As a recognition of this need, the 1939 state legislature made provisions for making moneys available in the event that the federal government inaugurates a national health program through which matching funds will be made available to the respective states. This is an indication that the state of Washington recognizes the principles of such a program and is ready to accept them should congressional action put them into effect. It is my understanding that a national health program, such as the one outlined in the bill which you have introduced, would fit in with existing health and welfare programs, and would, therefore, augment the services now available. It would give federal financial assistance to many of the phases of the program which the states and counties are operating on a small scale now. Where deficiencies in the services are already recognized, such assistance would prove of great value to the respective states as they carry out their programs of social security and public health. It is my further understanding that the legislation which Congress has before it aims to assist states along the lines of the health and welfare programs which the states themselves have initiated.

In talking about health, one of the doctors this morning I think minimized a little bit the extent of need of more adequate health service. Here is a statement from the head of the Welfare Department of New York:

> A recent study made by the Department of Welfare of New York City indicates that, in New York State, sickness of the breadwinner alone is responsible for approximately 15 per cent of the cases on home relief—and this is merely one type of public aid. In other words, in any one month in this state, over 136,000 men, women and children and more than 47,000 cases are dependent upon home relief because the wage earners have lost their jobs through illness. The approximate cost of this burden is over $22,000,000 annually. And, remember, we are excluding institutional care, those persons served by the hospital and health departments and all other forms of public aid.

You see what a great economy we could in the long run provide by making our citizens healthful. I am sure you agree with every word of that.

Dr. Benson:—Senator, in comment on that, that whole matter relating to prepaid care of industrial groups is an interesting topic and we could drag on here for days. If I could make my position clear, I am sure that you won't find it so unreasonable—

Senator Wagner (interposing):—I do not think you are unreasonable.

Dr. Benson (continuing):—As regards my ideas on indigent care, but I believe that the state and the counties, the political subdivisions, should furnish adequate medical care for the indigent, and I go further and I believe that, if they are unable to furnish all that, they should go to the federal government and ask for a grant as a gift or on a matching basis, a grant in aid. My whole point is that I feel that the matter should be simplified. We should be kept within bounds so that the federal government is on a balanced budget the way my state is. Mine is a poor state, but we are on a balanced budget, and I believe the federal government ought to be.

Senator Murray:—We will stand in recess then until tomorrow morning at 10 o'clock.

(Whereupon, at 4:20 p. m., a recess was taken until Friday, May 26, 1939, at 10 o'clock a. m.)

Friday, May 26—Morning

The subcommittee of the Committee on Education and Labor of the United States Senate met at 10 a. m. in the Senate Office Building, Senator James E. Murray (chairman) presiding. Present were Senators Murray, Ellender, Thomas and Davis. Also present was Senator Robert F. Wagner.

Senator Murray introduced into the record some statements of witnesses who were not going to be present.

One from Mr. H. B. Anderson, secretary of the Citizens' Medical Reference Bureau, Inc., with headquarters at 1860 Broadway, New York.

Also a resolution passed at the National Convention of the National Lawyers Guild, held at Chicago Feb. 12, 1939, pertaining to a National Health Program.

Also a statement of the United Rubber Workers of America, to the Senate Committee on Education and Labor, on the National Health Program.

Also a statement on the National Health Bill by the Amalgamated Clothing Workers of America.

Also a statement made by the United Office and Professional Workers of America.

Also incorporated in the record was a statement of Dr. Walter E. Vest of Huntington, W. Va., president of the Public Health Council of West Virginia, Huntington, editor of the *West Virginia Medical Journal* and past president of the West Virginia State Medical Association.

STATEMENT OF DR. WALTER E. VEST ON INSURANCE AGAINST UNEMPLOYMENT DUE TO SICKNESS

Dr. Walter E. Vest:—The disability compensation program dealt with in title XIV of the Wagner Health Bill is collaterally allied to rather than an integral part of a medical care program. Essential medical care will materially reduce the cost of disability insurance, and appropriate hospitalization and scientific rehabilitation, however provided, are necessary to keep the actual expenditure incident to such a program within reasonable bounds.

Compensation for loss of wages during illness may, when a part of a mutual voluntary indemnity insurance plan, have a favorable influence on the duration of disability and early return to employment. Self interest and self respect tend to prevent abuse of mutual indemnity plans.

Where the workman's financial responsibility is small in proportion to the benefit expected during disability, there is a tendency to assume and take advantage of a state of invalidity. In other words, the workman has a financial interest in assuming and continuing a state of apparent invalidism.

Properly safeguarded, payments for wage loss due to sickness, administered in like manner as payments compensating for unemployment due to other causes, would relieve much of the economic burden of illness in the low income segment of the population.

The American Medical Association endorses the principle of insurance against loss of wages during sickness. It is indispensable, however, that the physician's function in caring for the sick workman should be completely separated from medical certification of compensable disability. This should be the function of a qualified medical employee of the disbursing agency.

The Wagner Health Bill, however, is not satisfactory for the following reasons: (1) It requires the furnishing of medical services in addition to cash indemnity, (2) it furnishes a stepping

stone toward universal compulsory sickness insurance and (3) it provides for federal control of what should be essentially a state function.

Senator Murray:—Is Homer Folks here?

Mr. Folks:—Yes.

Senator Murray:—Will you come forward, please? Mr. Folks, I understand that you are anxious to get away and desire to make a statement at this time?

Mr. Folks:—That is right, sir, both.

Mr. Homer Folks, secretary of the State Charity Aid Association, New York, then presented a statement favoring the Wagner Health Bill.

ABSTRACT OF STATEMENT BY HOMER FOLKS

Mr. Folks:—In the United States in 1938, 69,324 persons died in the fruitful years of life, in the early middle aged period, when they are carrying the major responsibilities of life to their families and their communities, from a cause which we do understand, from a cause which we can control, which we are very slowly approaching a control of but which, if we only applied more fully what we now know, could be eliminated as any substantial cause of death in a very much shorter time than it otherwise will be. It is a national problem because these deaths are distributed over the entire country.

A second reason for federal participation is that no one state can do it alone.

The third reason is that while the cities and counties and the states have heretofore done quite a bit. They cannot now provide the sums required for hospital care.

Now the National Tuberculosis Association has just three points in its plan, which I say in substance is in the Wagner bill. The first of those is that we plan over a period of years to bring the number of tuberculosis hospital beds up to a minimum of two per annual death in each state in the Union. We suggest in our plan that the federal authorities aid for a period of six years in the maintenance of the additional hospital beds, not the existing ones. Third, that the federal government assist the states in finding the cases of tuberculosis which most need to be hospitalized. There are new methods of doing that, developed within the last few years, the significance of which is only relatively as yet understood; namely—I am speaking now for the National Tuberculosis Association, not of my personal knowledge professionally because I am not a doctor, but I know their views—that tuberculosis, early tuberculosis, can only be discovered definitely by an x-ray examination of the chest, and in no other way; that no practitioner without an x-ray machine can discover early tuberculosis.

Senator Murray:—Is that proposition recognized by the medical profession generally?

Mr. Folks:—I don't know, I guess so, I hope so, I think so. It is recognized by the National Association for Tuberculosis where the experts are—at least. They certainly must know it. If you are really going to find the people who are in a stage when they can be cured readily, you have got to go at it with the x-ray examination of the chest. And so we propose here that the federal government assist in that particular matter up to 50 per cent.

As an individual, I did my home work on the Wagner bill last night, a second time. I read it through from the first word to the last one and gave the whole evening to understanding it and seeing it. I have been a little critical of it at times, as it seemed to be pretty complicated and pretty hard to understand. I finished up last evening with an entirely different feeling about the bill as a piece of workmanship. To my mind it is a splendidly written piece of legislation. It wasn't just written, it grew, it is coherent, it is consistent, it is in harmony all the way through, and to my mind it is an excellent piece of bill drafting, and I hope it will get your most serious and favorable attention.

STATEMENT BY DR. CHARLES GORDON HEYD

Dr. Charles Gordon Heyd, New York, professor of surgery, New York Post-Graduate Medical School, Columbia University, was presented.

Dr. Heyd:—Mr. Chairman, I should like to draw to your attention a paragraph from the proposed National Health Act of 1939, page 5, paragraph 7, line 7:

> Provide for cooperation and, when necessary, for working agreements between the state health agency and any public agency or agencies administering services related to the services furnished under the state plan, including public agencies concerned with welfare, assistance, social insurance, education or medical care.

This paragraph appears twice in title V, once in title VI, once in title XII and once in title XIII.

This bill, therefore, expressly provides for working agreements, "including social insurance." Furthermore, two individuals and one executive control, administer this bill. First, the Chief of the Children's Bureau; second, the Surgeon General of the Public Health Service, and third, the Social Security Board.

These three individuals, with the consent or approval of the Secretary of Labor and the Secretary of the Treasury, "shall allot to the states the sums appropriated in accordance with rules and regulations which they shall make and prescribe."

It has been said that the power to tax is the power to destroy, and the power to give and withhold money is the power to coerce and control. There is, inherent in this bill, the power to dominate the entire field of medicine and to induce states to submit plans to certain three individuals in Washington, or bureaucrats, and "Failure to comply substantially with any requirement . . . further payments will not be made to the state" (page 22, sec. 605, line 12).

Senator Murray:—Wouldn't it be necessary, doctor, to have any law that way, that they would set up a formula or a basis for the granting of the assistance and if they didn't comply, then they wouldn't be entitled to receive the assistance?

Dr. Heyd:—That is true; the Comptroller General has to see that the funds are distributed within the law.

Senator Murray:—That is the only way anyhow—

Dr. Heyd (interposing):—But the prescribing of the rules, Mr. Chairman, is by these three individuals.

Senator Thomas:—Whom would you have them by?

Dr. Heyd:—Whom would I have them by? May I, Mr. Chairman, finish my remarks, and then I shall be perfectly willing to answer any questions.

Senator Thomas:—Excuse me, Doctor, but I have to run, and that is why I asked the question here.

Dr. Heyd:—Senator, I am trying to present an argument and if I stop I really believe that it will invalidate the continuity of the argument.

This bill would create a vast, complicated system of sickness insurance with a centralized control by the federal government of every phase of medical service. It would control the education of doctors, hospitals, the distribution of medical services, pharmaceutical houses, instrument makers, and all of the allied industries that go to the field of medicine.

It would provide a vast bureaucracy for the distribution of medical services and in essence would be a form of national sickness taxation. The government would have to collect the money, approve of it, distribute it, employ trained laymen and professional personnel for its distribution. It has all the defects that are inherent in the compulsory health system in any of the totalitarian states.

Furthermore, the bill will not provide good medical service. It deals with quantity rather than quality, and it provides a means for distributing minimum medical service.

There is not in the bill any provision for periodic health examinations, immunization, for any discoveries in the field of medicine. It freezes medical science and makes it static instead of allowing the onward procession with scientific progress.

Furthermore, the bill will increase illness because it gives an alleged "free medical service." Paradoxical as that may seem, the history of sickness insurance is an increase in illness. In Germany, in 1888, thirty-three individuals out of 100 availed themselves of sickness insurance. In 1925, 52 per cent, or more than half of the people insured.

Again, in the number of days of sickness, there was a gain. The number of days of sickness per hundred insured increased in the same period of time from 547 days to 1,250 days.

This bill, with its implicit instructions for sickness insurance, social insurance, will sterilize medical discovery. There isn't an American, be he layman or doctor, that is not proud of the contributions of American medicine during the last twenty-five years—insulin, vitamin therapy, liver therapy for anemia, high voltage roentgen therapy, increase in the knowledge and advancement in the treatment of cancers are all due to the free enterprise of science and the medical world in this country because it is not shackled by government control.

The bill will prolong illness. In the United States a workman will lose six or seven days a year. In England, under the panel system, nine or ten; and in Germany, fourteen. When an individual is given alleged "free medical service," there is no particular urge for him to get well quickly.

Senator Wagner:—Would you mind repeating that again?

Dr. Heyd:—When an individual is given alleged "free medical service," there is no particular urge for him to get well quickly.

Senator Murray:—What do you mean by that, Doctor?

Dr. Heyd:—Let me make a note of that and I will come back to that when I am through.

Senator Murray:—All right.

Dr. Heyd:—Now the second phase of my argument.

The phrase "including the training of personnel," page 8, sec. 5, line 22, occurs six times in titles V, VI and XIII and actually compels the various states to pass enabling acts. There are at least seven of the states of this country in which enabling acts have been passed or have been introduced. I need only refer to the Goldstein bill in New York, which was introduced in the assembly of New York State, which provides for the complete regimentation of the medical profession. I beg to submit here a copy of the Goldstein bill.

Senator Murray:—That may be filed with the committee.

The document referred to was filed with the committee.

Dr. Heyd:—I would like to quote one portion from that proposed legislation:

> In the event an insufficient number of persons elect to become members of the staff pursuant to this section within one year after this section as hereby amended takes effect, any additional number of staff members shall be procured by aiding students and prospective students to obtain the necessary training, experience and qualifications at professional schools and colleges with a financial subsidy of not to exceed one thousand dollars per annum to each such student who will agree, upon graduation from such school or college, to elect to become a member of the staff subject to the terms and provisions of this chapter and the rules and regulations of the department for a period of at least three years.

In 1933, while in Moscow, I heard those identical words of that paragraph from the Assistant Commissar of Health.

Now the training of personnel by government subsidy will entirely change the basis of our education. It will lower the quality, remove the basic qualifications and make entrance into a medical school dependent on favor, recommendation.

Furthermore, this bill jeopardizes the voluntary hospitals. This American hospital system is a peculiar product of our civilization and culture—the integration of voluntary effort into government effort. It works well, and yet there is not one word in this projected bill that will maintain this marvelous structure of the voluntary hospitals.

Furthermore, the bill does not solve medical indigence. It does not supply an adequate, efficient medical or dental service. A huge bureaucracy is created. Fifty per cent of the personnel will be nonprofessional people, and the amount of money that is spent for medical care will be that sum of money less the cost of the administration of this huge lay personnel.

Psychologically and fundamentally, it destroys character because the giving of something for nothing undermines character, and the idea that the government can pay for everything brings about a slow deterioration of the race.

Furthermore, this bill will dominate all citizens because a complete control of the medical service, such as is envisaged in this bill, will mean that every citizen is under the control, in one way or another, of the influence of this bureaucratic medical system.

Senator Wagner, I think this will explain in a measure the little doubt that I didn't make myself clear.

Under this bill cash benefits for wage loss, while sick, impairs the physician's usefulness and in turn blackmails the doctor. The effect of making the doctor certify to cash benefits for sickness places the physician under the economic necessity of certifying illness for fear of losing his patients, and if an individual is treated in a hospital, receiving compensation while he is sick, and he is maintained in that hospital at government expense, he has very little incentive to get well.

Understand me, I am for paying the workman when he is sick, his wages, but he should be paid from the organizations that deal with unemployment. It is not part of the distribution of medical services.

This bill is financially wasteful and extravagant. The form of poor relief or medical dole is incorporated therein.

Since taxes are spread generally, they must be paid in the long run by the great mass of the people.

Now you have distributed funds through the Public Health Bureau and the Child Welfare Bureau without any difficulty and you have given to the state of Nevada, under the Children's Bureau, for 1938, $1,614. The Public Health Bureau in the same time gave, in the state of Nevada, $411. The total of those two amounts is $2,025.

Now the basic cost of distributing all of the public health services in any state, be it a low expense state or a high expense state, is $1.31, and that is the figure that the populace in the rich state of New York spends. Yet the state of Nevada received $2.02.

So I bring that as an example of financial waste and extravagance.

Senator Murray:—Doctor, in the state of Nevada you have tremendously wide stretches of territory; you couldn't expect a state like that to maintain the low cost of service that you would in a big state like New York or in any part of the state of New York, isn't that true?

Dr. Heyd:—I will grant you, Mr. Chairman, that that is an offset.

Mr. Chairman, there is no magic in government spending. Government does not create money or values. This National Health Bill will, it is true, spread the cost of medical service. It must be paid for in taxes, there is no such thing as free medicine, but it will buy less medical service than the same amount of money spent as under the present setup.

This bill with its centralized control is an implement of the totalitarian state.

Senator Wagner:—What is that?

Dr. Heyd:—This projected bill, that bears your name, is an implement of the totalitarian state, with its centralized federalized control.

Senator Murray:—You see out of this a totalitarian state coming?

Dr. Heyd:—No, no, I said it is one of the implements.

Senator Wagner:—I see.

Dr. Heyd:—Gentlemen, it is easier for any one here, or you, to walk out of this building and get medical service, than it is to get food or shelter or clothing, and aside from certain areas in the United States, which organized medicine freely admits need care and want care and are perfectly willing that Mr. Wagner shall give them care under certain institutions and organizations, but it is easier to get medical care in the five or six thousand towns, of over ten or fifteen thousand population, a stranger, than it is to go out and get shelter or food or clothing.

Senator Murray:—Doctor, your statement is a severe indictment of the bill, but I am sure that we all welcome it. It will stimulate our study and close analysis of the bill. We want the medical profession to come here and attack the bill with all the force they possess, because if there is anything wrong in it I am sure that Senator Wagner and every member of this committee wants to correct it. I think that the medical profession is best fitted to come here and do that job of analyzing this measure, and I want to thank you for your very strong statement. Of course we may not thoroughly agree with you on everything, but it is going to stimulate our very close study of the bill.

Dr. Heyd:—Thank you so much for your courteous treatment.

Senator Ellender:—Doctor, if I am to understand your argument, you don't believe that the federal government should spend any money for such purposes?

Dr. Heyd:—I didn't say that, Senator.

Senator Ellender:—Well—under what circumstances, then, would you permit the federal government to aid the states?

Dr. Heyd:—Whenever the need is demonstrated.

Senator Ellender:—All right. That statement has been made by every physician who has so far appeared for the American Medical Association. What I am very anxious to have written into the records is your views as to how that can be done. Now you needn't have in mind that we want you to dictate in the record a bill to that effect, simply give us the ideas and we are going to get the lawyers who draft our bills to do the work.

Dr. Heyd:—I am happy to comply with that, and welcome the opportunity. My first point in my argument is to present what I believe are the dangers here.

Senator Ellender:—Let's forget that bill and you say you are in favor of having the federal government aid the states?

Dr. Heyd:—Yes, sir.

Senator Ellender:—To help the sick?

Dr. Heyd:—Yes, have the federal government create a Department of Health to coordinate all health activities.

Senator Ellender:—Would you say that the present health department is insufficient?

Dr. Heyd:—I am not here and I have no competence to criticize the present health department.

Senator Ellender:—I am not talking about the personnel, forget the personnel; I am talking about the law establishing it.

Dr. Heyd:—Senator, you asked me for my views as to how I would get federal money to those deserving areas.

Senator Ellender:—Yes, sir, and you said the creation of a federal department—

Dr. Heyd (interposing):—A federal Department of Health.

Senator Ellender:—You have that now under the federal government. Would you improve on that or would you suggest any changes, or how would you do it?

Dr. Heyd:—The creation of a federal Department of Health; two, a Secretary of Health; three, the coordination of all health activities in that department; four, the creation of a sufficient sum of money under proper legislative and Congressional controls in that department; and five, the allocation of funds from that amount on due presentation and demonstration of the need, wherever that need may be.

Senator Ellender:—Now let's go to your first suggestion. Would you improve the law that is now on the statute books with reference to the creation of a health department?

Dr. Heyd:—I am not competent, Senator, to offer any criticism as to the law. I have never been trained in it.

Senator Ellender:—Now why do you mention a Secretary?

Dr. Heyd:—Because if medicine is one of the three great industries of this country, and the whole ideology of the Wagner bill is to save sick people, I think it needs a full-time man, trained to do nothing else but that.

Senator Ellender:—You mean to take care of—

Dr. Heyd (interposing):—All the health activities of the federal government.

Senator Ellender:—One Secretary?

Dr. Heyd:—Yes.

Senator Ellender:—Would you make that a cabinet officer or what; how would you handle that?

Dr. Heyd:—I think if I were handling one of the two or three biggest industries in the country, as big as most of the other departments, that that should be a cabinet officer.

Senator Ellender:—Now you know the goverment must appropriate each year funds before they can be distributed among the states. Now what would you start that fund at?

Dr. Heyd:—Senator, I know less about that than you do. I am not competent to tell you how much money would be required. I know that this bill projects nearly 900 million in three years.

Senator Ellender:—How much?

Dr. Heyd:—Nine hundred million, doesn't it, within the ten years that it is supposed to run—well, it doesn't matter, the figures are there.

Senator Ellender:—I don't think your figures are correct.

Dr. Heyd:—They may not be.

Senator Ellender:—How would you define "need"? Who would determine that?

Dr. Heyd:—I would have a man like Homer Folks to tell me what the needs were.

Senator Ellender:—How would you organize that, who would have the power to organize and appoint Homer Folks?

Dr. Heyd:—The federal government.

Senator Ellender:—What rights would the states have in supervising this work, if any?

Dr. Heyd:—I am not prepared to answer that, I am not a constitutional lawyer.

Senator Ellender:—I am asking you, under your plan would you have the state cooperate with the federal government or vice versa, or who would have the last say, let's say?

Dr. Heyd:—The last say, as it is now, with the federal government.

Senator Ellender:—In other words, any plans that would be worked out, and in which the federal government would furnish money, you would expect the federal government to maintain authority?

Dr. Heyd:—Yes.

Senator Ellender:—And what authority would you vest in the states?

Dr. Heyd:—That I am not prepared to answer; I can't frame a bill on my feet; I am only anxious to prevent this train coming into a washout with a red signal.

Senator Ellender:—Of course you know this, that I, and nobody else on this committee, would vote to surrender the rights that belong to the states to the federal government.

Dr. Heyd:—We are both agreed on that.

Senator Ellender:—But under your plan that is what would happen; in other words, you would direct it all from Washington, as you say, and the entire matter would be left to the Secretary and the Public Health, and the states would have nothing to do with it?

Dr. Heyd:—Oh no, after the need had been passed on and the money had been given to the states, a state, local organization, state or county or municipality, would distribute that money for the purposes that were written into that grant.

Senator Ellender:—Well, the need, then, would be determined by the federal government through a person appointed by the federal government, and, after that need was made certain, then the federal government would turn over to some state health service, or whatever might be established. Now to what extent would you permit the federal government to oversee, as it were, these funds after they got into the hands of the state department of health?

Dr. Heyd:—That is already, I think, in the law, that the Comptroller General must see that the funds expended are within the terms of the enactment, or whatever it is.

Senator Ellender:—And you wouldn't consider that federal control, that is, the taking away of states' rights, would you?

Dr. Heyd:—I think that we differ in our point of view. The federal government, if it puts up money, obviously must have control over the money. I am talking about the federal control of medical service.

Senator Ellender:—Well, what I was trying to get from you was some plan that you would make, don't you see, and which would not incorporate all of these various phases of this bill that you are not in agreement with. Now just what authority would you give the federal government after the funds reached the state?

Dr. Heyd:—I am not prepared to answer that, that requires thought and consideration. I am not competent to do that.

Senator Murray:—Doctor, could you study out this matter and submit a plan that you think might be feasible?

Dr. Heyd:—I am quite sure the American Medical Association, with its people, could work out that detail if there was a failure to accomplish it in Washington.

Senator Murray:—In other words, you feel that a National Health Program would be proper, but you—

Dr. Heyd (interposing):—I did not say that, Mr. Chairman. I did not say that. Senator Ellender asked me what I would suggest to meet conditions of local need or medical need and I submitted what I thought was a competent and effective plan, the Department of Health, the Secretary, all medical activities in that department—

Senator Ellender (interposing):—Am I to understand that although you suggest that plan you would be against it?

Dr. Heyd:—Against the Wagner bill 100 per cent.

Senator Ellender:—Now would you leave this question of the determining of need solely in the hands of the party appointed by the government or would you have this party cooperate with the state agency who is to spend the money?

Dr. Heyd:—Either way, it could be worked out amicably. When minds are for the same objective, they can usually meet if the fundamental principle is sound.

Senator Ellender:—Now, Doctor, you have stated that a person who receives treatment is not as likely to get well as one who must pay for it; am I right in that?

Dr. Heyd:—I will accept your version of it, yes.

Senator Ellender:—You don't believe in Christian science?

Dr. Heyd:—Do I believe in Christian science?

Senator Ellender:—Yes.

Dr. Heyd:—You mean as therapy or medical treatment?

Senator Ellender:—I don't know, but I would judge from the question that I have just asked and to which you have agreed that is on the borderline of Christian science, as I, as a layman, understand it, that it is a working on the mind, isn't it? The fact that I go to a hospital and I mustn't pay, I will just stay in bed and accept the hospitalization?

Dr. Heyd:—I think that is true in about ninety-five out of 100 cases.

Senator Ellender:—Do you like to stay in the hospital?

Dr. Heyd:—Yes, sure.

Senator Murray:—Doctor, I would like to go to a hospital and stay there a week now and get a good rest. (Laughter.)

Senator Ellender:—Would you expand on that for us?

Dr. Heyd:—Yes, and I will give you a direct answer to it.

Senator Ellender:—I don't mean these chronic cases, I mean generally speaking?

Dr. Heyd:—You mean, like you might be sick after this session?

Senator Ellender:—Yes, but I have, seriously, been sick just a few times and I was glad to get out of the hospital, not because it cost money but to get out of that environment.

Dr. Heyd:—Let me explain that to you. Here is an individual. I want time to make two examples. Here is an individual who doesn't like his job particularly and he develops a nice big boil on the back of his neck, and he goes to a hospital and he is fed well and he has a lot of pretty girls wait on him and he has dressings. Do you suppose that fellow is in a hurry to get out and go back to work?

Senator Ellender:—I don't think a man who has a boil would be admitted to any of these hospitals; just open it and put him out.

Dr. Heyd:—Did you ever have one?

Senator Ellender:—Yes.

Dr. Heyd:—With a temperature of 104 and the possibility of meningitis and dying?

Senator Ellender:—That is a different proposition; if those conditions exist I would then say he ought to stay in. And another thing, Doctor, it strikes me that any plan that would be worked out by the federal government through the states would leave it to the doctors to determine that, as to whether or not he should remain there, as is done now in charitable institutions that I know of in my own state. They usually give them a card and say "You are well" or "You have got to be transferred" or something of that kind. Isn't that usually true?

Dr. Heyd:—Right! Example No. 2. The Associated Hospitals in New York City have over one million subscribers. You are familiar with that. That is the three cents a day plan. Under their plan, by paying $10 a year, any individual, a policyholder, can, on the advice of a doctor, go to a hospital. Under that plan all the hospital charges are paid up to thirty days. In 1938 the admission of people to hospitals with colds, with trivial cuts, was so great as to practically make severe inroads into the reserves of that organization, showing you that when people do not pay for their per diem maintenance in hospitals they tend to prolongation.

Example 3. In the Veterans' Hospitals it takes twenty-nine days to take out tonsils and discharge the patient. In civilian hospitals it takes three to four days.

Senator Ellender:—And you attribute that to the fact that in one instance they must pay and in the other they must not?

Dr. Heyd:—The psychology of getting something for nothing.

Senator Ellender:—I know. But is not the medical profession, that is, the person who does that, to blame largely, not the patient?

Dr. Heyd:—They are particeps criminis, I believe.

Senator Ellender:—Don't you think they are 99 per cent criminis?

Dr. Heyd:—Oh no.

Senator Ellender:—I don't know, but it strikes me that the—

Dr. Heyd (interposing):—Don't forget the doctors in the Veterans' Hospitals are government employees.

Senator Ellender:—Civil service—the merit system. (Laughter.)

Senator Ellender:—On page 5 of the bill you cited section 7?

Dr. Heyd:—Yes, sir.

Senator Ellender:—And I understand your conclusion, that is, what you derive from that section, is that it may lead to socialized medicine; am I right?

Dr. Heyd:—It is inevitable in the terms.

Senator Ellender:—Personally I am not in favor of that, Would you suggest any language to negative that?

Dr. Heyd:—I cannot suggest language on my feet to cover such an important matter.

Senator Ellender:—Of course these hearings are not going to close today, and we expect to hold hearings later, but would you have some one to suggest?

Dr. Heyd:—No sir, you can't patch this house up.

Senator Ellender:—Wait a minute, Doctor, let's not take the entire bill. I am talking about that portion of it dealing with socialized or social medicine, and you cited this paragraph on page 5 and several others that would lead you to believe that that is inevitable if that language, as I understand it, is retained. Now what I would like to have is a suggestion from you or any member of the Association, in fact anybody against the bill, who thinks that this would lead to socialized medicine, that language, I would like to have it negatived.

Dr. Heyd:—Senator, it is my considered opinion that you cannot amend this bill and make it workable.

Senator Ellender:—That is all.

Senator Wagner:—Doctor, you just said people getting something for nothing, that that is the psychology which keeps a man in a hospital longer than he should?

Dr. Heyd:—Yes, sir.

Senator Wagner:—Do I understand you to mean by that that people who are poor and helpless and sick and want to get well ought not to receive any care because they can't afford to pay for it?

Dr. Heyd:—No sir, they should receive all the care they need.

Senator Wagner:—What do you mean, then, by this thing you just said a moment ago, that getting something for nothing is just prolonging illness rather than curing it?

Dr. Heyd:—There comes a time, Senator, when a person, after an illness or an operation, a certain given number of days, when he is considered well enough to go home.

Senator Wagner:—I am not talking about that, I have heard that, I don't agree with you at all, but that isn't what I am talking about. I am talking about the person that hasn't got the money to pay for an operation and he is sick and he is helpless, what about that person?

Dr. Heyd:—Senator, won't you be fair and let me finish my argument on that?

Senator Wagner:—You started it, you said after an operation—I am talking about something before an operation, I am talking about the person that hasn't the money with which to pay for an operation, and yet he needs it and he is very ill and he is poor, he hasn't the money, he is in that lower income group. What about that person?

Dr. Heyd:—He should receive medical attention without any question.

Senator Wagner.—Aren't you afraid of ruining that person by giving him medical attention because he is getting it free?

Dr. Heyd:—On the contrary, we are making him well.

Senator Wagner:—You said a moment ago that getting something for nothing makes persons ill rather than well.

Dr. Heyd:—No, it tends to prolong illness, they are totally different, Senator.

Senator Wagner:—Tends to prolong illness?

Dr. Heyd:—Yes, sir.

Senator Wagner:—Well, we don't want to prolong illness, and how are we going to stop it?

Dr. Heyd:—I don't think you will stop it under your bill.

Senator Wagner:—How would you stop it?

Dr. Heyd:—I would carry on the present medical system that has been so successful.

Senator Wagner:—Has it been?

Dr. Heyd:—Has it been successful?

Senator Wagner:—Yes.

Dr. Heyd:—I am going to give you the answer, that it has been.

Senator Wagner:—Aren't you relating what you are saying as the result of your experience?

Dr. Heyd:—Yes, sir.

Senator Wagner:—That helping these people that are getting it for nothing prolongs their illness?

Dr. Heyd:—Yes.

Senator Wagner:—Don't we want to cure them?

Dr. Heyd:—Certainly.

Senator Wagner:—How are we going to do that?

Dr. Heyd:—Under the scheme that I outlined to the Senator, centralized Department of Health, and—

Senator Wagner (interposing):—Is that the way you are going to do it?

Dr. Heyd:—Carry on the present medical setup that has been so effective and aid areas that need help by federal funds.

Senator Wagner:—Aren't you going to set up—I understood you to say that you wanted to substitute another setup?

Dr. Heyd:—Not to destroy the present medical distribution, no, sir.

Senator Wagner:—Well, does this bill destroy the present method of distribution?

Dr. Heyd:—In my opinion it does.

Senator Wagner:—Well, what is it that does?

Dr. Heyd:—Well, if this bill were enacted you would have forty-eight commissioners of health coming to Washington, to interview three individuals and making requests for allotments, and they would or would not get those allotments, and when you have the power to give or withhold money you can coerce or control that medical service.

Senator Wagner:—Now let's get right down on that point. What did you suggest in place of that; didn't you suggest a moment ago a Department of Health?

Dr. Heyd:—Yes.

Senator Wagner:—To which the forty-eight states would come?

Dr. Heyd:—No, sir.

Senator Wagner:—Who would come?

Dr. Heyd:—Any subdivision of the states that had a local need could come and petition that department and have the merits of their request passed on.

Senator Wagner:—Well, what is the difference between the state coming and any subdivision of the state coming?

Dr. Heyd:—Because in this bill you make the deficiencies of one state a pattern for spreading all of this allotment over the whole forty-eight states and dependencies. My fundamental proposition is where the need is demonstrated.

Senator Wagner:—Very well, then, if this bill—I think it is based on need, but I am not going to argue that with you—suppose the bill is changed according to your suggestion now and, instead of only the head of the state coming, any subdivision of the state may come, isn't that what you suggested a moment ago?

Dr. Heyd:—No, sir, I would have nothing to do with this bill.

Senator Wagner:—Well, under any bill?

Dr. Heyd:—I didn't say that, and you can't read into my language anything like that. I said—

Senator Wagner (interposing):—I am asking you, suppose a bill is introduced which will provide for the central bureau here in Washington with a health commissioner at the head, with funds supplied by Congress, and with an authorization to give to states or political subdivisions according to the needs of those communities for medical aid. Would you then favor such a bill, Doctor?

Dr. Heyd:—When such a bill is introduced I should like to study it and discuss it with you; I will not sign a blank check.

Senator Wagner:—Well, of course that isn't centralization of power, is it, having a central bureau such as you recommend where the commissioner at the head has the right to determine whether a state should receive money or not?

Dr. Heyd:—It may have something of centralization in it.

Senator Wagner:—Well, isn't that bureaucratic?

Dr. Heyd:—No, the Post Office Department in Washington, that is centralization.

Senator Wagner:—I understood you to say that you were opposed to centralization.

Dr. Heyd:—I am opposed to the centralization that flows from this bill.

Senator Wagner:—Well, with all due respect to you, what you are suggesting is much greater centralization than the provisions of this bill suggests.

Dr. Heyd:—I don't believe so, Senator.

Senator Murray:—May I call his attention to this provision in here, on page 4, at the bottom of page 4, in connection with the grants to states:

> Provide for an advisory council or councils, composed of members of the professions and agencies, public and private, that furnish services under the state plan, and other persons informed on the need for, or provision of, maternal and child health services.

Under that section it depends on the profession, as a medical profession, and other public agencies, to determine the need for the assistance that is to go to the state. Wouldn't you favor that?

Dr. Heyd:—With all due deference to you, Mr. Chairman, those advisory councils have no power, it says "members of the profession." They might be a minority and in substance that section means that the advisory council would be rubber stamps.

Senator Murray:—Could that be corrected, then, if that is not satisfactory as it stands, could it be amended so as to make it feasible?

Dr. Heyd:—I don't believe you can amend this bill and make it workable.

Senator Wagner:—A moment ago you said something about the distribution of monies to Nevada?

Dr. Heyd:—Yes, sir.

Senator Wagner:—Well, what was the purpose of that, to show they were getting more money than they should get?

Dr. Heyd:—No, the purpose of that was to show that the ordinary per capita expense of a well rounded health service is $1.32, and the money received for those two items from the Children's Bureau and the Public Health Service was $2.02, indicating in a relative way the element of the increased cost that grows from the filtering down of funds.

Senator Wagner:—Well, if that was so, you shouldn't be for any federal aid; if giving federal aid increases the expense of medical service, how do you justify your being for any federal aid?

Dr. Heyd:—Well, certain functions in medicine must be taken care of by the federal government.

Senator Wagner:—How do you know that that is a case where medical care was needed and an increased sum was needed to take care of the individuals in that state?

Dr. Heyd:—I am prepared to admit that it was needed or it probably would not have reached there.

Senator Wagner:—If you are prepared to admit that, then what was your point in citing it to us?

Dr. Heyd:—Because it heads the list of states that received this aid, in amount of money, and I can't imagine that the wants in child welfare and in maternal welfare can be greater in Oklahoma than in New York City, because they have less population, they have less babies born and they must have less crippled children, and yet they got more money.

Senator Wagner:—Did you examine these facts?

Dr. Heyd:—These are facts that have been supplied by these bureaus, sir.

Senator Wagner:—I mean, did you inquire as to what the need was in those particular instances?

Dr. Heyd:—No sir.

Senator Wagner:—Well, don't you think if you wanted to make a fair statement that you ought to have inquired whether that much money was needed to give proper medical care?

Dr. Heyd:—No, I see no reason to believe that those bureaus didn't give the required amount of money.

Senator Wagner:—Well, if they did, then it was a very desirable aid, wasn't it?

Dr. Heyd:—I presume it was.

Senator Wagner:—Well, you quoted it in criticism.

Dr. Heyd:—Yes, sir.

Senator Wagner:—And yet now you say it might very well have been needed.

Dr. Heyd:—Yes.

Senator Wagner:—Doctor, do you know the organization known as the National Committee to Uphold Constitutional Government?

Dr. Heyd:—Yes, sir.

Senator Wagner:—Have you anything to do with that organization?

Dr. Heyd:—No, sir. What do you mean by "anything to do" with it?

Senator Wagner:—I will put it another way. I have a telegram, a copy of a telegram that you sent. I take it that you sent it to more than one individual?

Dr. Heyd:—Certainly.

Senator Wagner:—And in this telegram you say:

> Today's mail brings you from Sumner Gerard booklet "Political Medicine and You." Leaders of medicine convinced pending Wagner National Health Bill and supplementary bills being pressed various state legislatures harbor grave dangers impairing standard of medical profession, crippling research and threatening church and volunteer hospitals. Since this issue is being carried to every state we are convinced necessity nationwide educational campaign proposed booklet, page 22. Will you read and give support measured by importance of issue or if already supporting interest others.
>
> CHARLES GORDON HEYD,
> Past President American Medical Association.
> JOHN A. HARTWELL,
> Past President Academy of Medicine, N. Y.

That is signed by you?

Dr. Heyd:—Yes.

Senator Wagner:—To how many people did you send such a telegram, do you know?

Dr. Heyd:—I haven't the remotest idea.

Senator Wagner:—Well, you must have some idea, I can't accept your answer that you haven't the remotest idea.

Dr. Heyd:—I signed the master telegram that was sent out as a sampling, I think to fifty individuals in New York, and then it was probably extended, I don't know to how many, sir.

Senator Wagner:—It would be extended by whom?

Dr. Heyd:—By the Gannett organization.

Senator Wagner:—That is what I want to know; the Gannett organization sent these telegrams ostensibly signed by you?

Dr. Heyd:—Yes, sir.

Senator Wagner:—To all of the doctors alone or others too?

Dr. Heyd:—That I don't know; probably all types of people.

Senator Wagner:—This was sent to a bank.

Dr. Heyd:—It was sent to all the citizens.

Senator Wagner:—Did you supply that list?

Dr. Heyd:—No, sir.

Senator Wagner:—Did the Gannett organization supply the list?

Dr. Heyd:—If they had a list they certainly got it, because we did not supply it.

Senator Wagner:—Well, you said you originally sent out fifty and then there were any number more sent out after that?

Dr. Heyd:—I believe so.

Senator Wagner:—Well, aren't you a little more particular about the use of your name than not inquiring even as to who these telegrams were sent to?

Dr. Heyd:—No; I was quite prepared that that telegram go to every citizen in the United States.

Senator Wagner:—I see—to support the Gannett organization?

Dr. Heyd:—I have contributed to it.

Senator Wagner:—And you asked these people to contribute to it?

Dr. Heyd:—Yes, sir.

Senator Wagner:—Do you know what their activities have been?

Dr. Heyd:—Only in a general way; I know the phase of the medical activities.

Senator Wagner:—You think it was all right for you as a doctor to associate yourself with propaganda of that character?

Dr. Heyd:—As a citizen, yes.

Senator Wagner:—Well, as a doctor?

Dr. Heyd:—As a doctor.

Senator Wagner:—You were talking some little while ago about the provisions in this bill which provide for payments for temporary disability and you said, as I understood you, and if I am wrong will you please correct me, that one of the reasons you opposed that is that one receiving some cash benefits because of loss of wages, that it would have the effect of continuing their unemployment and illness in order to receive the compensation, although the illness had disappeared. In effect was that what you said?

Dr. Heyd:—Experience demonstrates that that is correct, both in England and in Germany.

Senator Wagner:—Well, is it so with reference to workmen's compensation?

Dr. Heyd:—I think it is true of workmen's compensation.

Senator Wagner:—Well, do you know anything about the studies that have been made in New York State and other states.

Dr. Heyd:—Yes, sir, I went to Governor Lehman and had the doctors' committee appointed that framed the amendment to the workmen's compensation act of New York State.

Senator Wagner:—When was that?

Dr. Heyd:—In the previous term of Governor Lehman, when the amendment to the present workmen's compensation act was enacted. That is, I should say, about three or four years ago.

Senator Wagner:—Are you acquainted with any investigations that have been held in New York on that very subject?

Dr. Heyd:—Yes, sir.

Senator Wagner:—Don't you know that they show that there hasn't been any such experience in New York?

Dr. Heyd:—Since the enactment of the amendment it has been clear and clean, Senator, because the policing of the profession is stated in the amendment to the workmen's compensation as being the responsibility of the medical society of the county, but previous to the amendment the workmen's compensation was scandalous.

Senator Wagner:—Will you point out to me any investigation that shows that, do you mean the conduct of the doctors?

Dr. Heyd:—The conduct of the doctors, the conduct of the insurance chasers, the conduct of the auditors, of the insurance companies. Governor Lehman appointed this commission to study it, composed of five members of the New York Academy of Medicine and five from the Medical Society of the County of New York, and on the recommendations of that committee, the workmen's compensation act was amended, and since that amendment it has been cleaner.

Senator Wagner:—What is the nature of the amendment?

Dr. Heyd:—That is one of your bills, the original bill, I know. First the medical society was enjoined to prepare a detailed schedule and they worked with the insurance companies and devised a schedule which was fair and reasonable and within the compensation of the workman. Second, on disputed bills the bill must be passed by a tribunal of a county medical society. Third, there were double penalties if the insurance company stole a case, that is, if I saw a case and the insurance doctor came in and took the case away. And a lot of things that tended to purify the atmosphere surrounding the injuries to workmen.

Senator Wagner:—Well, are cash benefits now paid under workmen's compensation?

Dr. Heyd:—Yes, sir.

Senator Wagner:—And is medical service paid under workmen's compensation?

Dr. Heyd:—Yes, sir.

Senator Wagner:—And what portion of compensation is for medical service and what for cash payments?

Dr. Heyd:—I can't tell you that.

Senator Wagner:—Would you be surprised if I told you that about 90 per cent goes for medical services and 10 per cent for cash payments?

Dr. Heyd:—No, I would not be surprised, I would expect you to know.

Senator Wagner:—So that the medical profession is getting a real benefit out of the workmen's compensation?

Dr. Heyd:—The medical profession of the state of New York is eminently satisfied with the workmen's compensation in the state of New York.

Senator Wagner:—Well now, if that is so, I don't understand why the disability, which is the same theory except it is for an illness which was not acquired in the scope of employment, why wouldn't that work just the same as it does with the workmen's compensation law?

Dr. Heyd:—Well, there are a lot of reasons, Senator, why it wouldn't work as well. First, you have the control of the injured workman, he is working for a company, they know where he is, they know the manner of the injury, he selects his own doctor and he goes there, and all during that time there is the supervision by the company's doctor to prevent prolongation.

Now in contrast to that, in England and in Germany the prolongation of sickness beyond any reasonable time was so great that many times special agencies of the government had to be appointed to investigate this and to get rid of the malingering. There are a lot of very obvious psychologic factors in the two pictures.

Senator Wagner:—And you think we are not competent to prevent these prolongations?

Dr. Heyd:—Oh no, I am quite sure that the federal government can devise a means that is comparable to the workmen's compensation, but it is not in your bill.

Senator Wagner:—All right, will you suggest some provision that will strengthen that particular section of the bill?

Dr. Heyd:—I don't think you can amend the bill, Senator.

Senator Wagner:—Well, forget this particular bill.

Dr. Heyd:—I am not called on to write a bill, Senator.

Senator Wagner:—I see, that is your idea of public spirit?

Dr. Heyd:—I came down here in the spirit of public spirit.

Senator Wagner:—Simply to oppose?

Dr. Heyd:—Yes.

Senator Wagner:—Not to suggest, make any constructive suggestions?

Dr. Heyd:—May I put a question to you, Senator? Suppose I see a railroad train coming, where there is no bridge and a washout, am I going to start building a bridge or am I going to get a red flag and stop that train?

Senator Wagner:—That is not at all analogous. Dr. Heyd, do you know whether the medical journals contain any letters which criticize your action in sending this telegram, or your association with the so-called Gannett movement?

Dr. Heyd:—Yes, I know of half a dozen.

Senator Wagner:—May I read one of these letters?

Dr. Heyd:—By all means.

Senator Wagner:—This is to the Editor of Public Forum in New York *Medical Week:*

In order to combat the Wagner Health Bill some of our physicians have formed the Physicians Committee for Free Enterprise in Medicine, a committee working with Gannett's National Committee to Uphold Constitutional Government.

There may be some physicians in Manhattan, as there were in Brooklyn, who did not quite understand the function of the group they were joining. Therefore it is pertinent to point out some facts about the Gannett committeee.

The activities of this committee are such that the Senate was impelled to question Gannett as to who the backers were. But this Gannett refused to divulge.

The most interesting aspect of the committee is the fact that Gannett chose Dr. Edward A. Rumely to be its manager. This Rumely is none other than the "war-time pro-German propagandist who, with the aid of pro-Germans bought the New York *Evening Mail* for the purpose of presenting the Kaiser's cause. . . . He was convicted of trading with the enemy and sentenced to serve a year and a day in the federal penitentiary in Atlanta. (George Seldes, "Lords of the Press, page 211.)

Does any group in America which really wishes to maintain our constitutional democracy need the services of a man who was convicted as a spy? Are there no others whose motives are above suspicion? And it would be interesting to inquire whether Rumely's sympathies for the Kaiser's military machine have not grown apace with the development of Hitler's supermilitarism. One cannot escape the suspicion that a committee to uphold the constitution which needs the services of a former spy smacks of that patriotism which is the last refuge of a scoundrel.

The fact that outstanding men in the profession have joined the Gannett committee puts the whole profession in a very questionable light before the lay public. The opinions of these men are not representative of the profession as a whole, as was shown at the meeting of the Kings County Medical Society (reported in the New York *Times*, April 23, 1939), where a resolution condemning the Free Enterprise group was passed by a vote of ten to one. The fact that some of these men are officers of the New York County Medical Society puts the problem directly before the membership of that society.

I have mentioned the above facts about the Gannett committee on the chance that these officers were not acquainted with them. If, knowing them, the President, the President-elect, the Secretary and the Editor of *Medical Week*, among others, are still content to lend their support to a spy-run organization which refuses to divulge its financial backing, then it becomes incumbent on the membership to question whether these men are qualified to act as the official spokesmen for organized medicine. The choice is clearcut and should be an easy one for men of integrity to make.

MARTHA MENDELL, M.D.

201 West 16th Street.
April 23, 1939.

There are a number of others along the same lines, but I don't propose to read them. Do you remember reading that letter?

Dr. Heyd:—Yes, I know Dr. Mendell.

Senator Wagner:—Is it true that the Medical Society in Brooklyn took a vote on this proposition?

Dr. Heyd:—I think that is true.

Senator Wagner:—In favor of this legislation?

Dr. Heyd:—That I don't know.

Senator Wagner:—Was this vote ten to one as reported?

Dr. Heyd:—That I don't know.

Senator Wagner:—Well, there is just one other question. I don't want to pursue this indefinitely. You said something about research, of the bill possibly interfering with research. Of course I don't understand how it possibly can interfere with research, and in my opinion it encourages it, but one of the eminent doctors in New York came before this committee and stated that the National Health Department has done research work which is equal to the work of any private research laboratory, and he was a professor up at Columbia.

Dr. Heyd:—That is the National—

Senator Wagner (interposing):—The National Health Service, which is conducting research work constantly.

Dr. Heyd:—Has done research comparable to—

Senator Wagner (interposing):—To that of private institutions that conduct research.

Dr. Heyd:—I don't believe the body of facts would sustain that statement.

[Here there was an extensive discussion of the subsidizing of medical education.]

Dr. Cary:—Mr. Chairman, at this time may I enter in the record some information which I think the committee should have.

[Report entitled "Hospital Service in the United States, 1939," was filed with the committee.]

Dr. Cary:—At this time I have the pleasure of presenting the Editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Dr. Morris Fishbein, who will continue the discussion.

Senator Murray:—Dr. Fishbein.

STATEMENT OF DR. MORRIS FISHBEIN

Dr. Fishbein:—We have been presenting here, during the past two days, and on some previous occasions, the statements of men who have developed information concerning the medical point of view regarding the Wagner act. I do not wish to take the time of the committee to repeat either the arguments or the general statements that have already been made. I hope, rather, to cover ground that has not yet been covered or perhaps to correct some of the misstatements and misimpressions that have been made by some of those who have appeared previously.

I would call attention first to the fact that I have had opportunity in the past week and previously to read some of the recorded hearings that have already taken place. I believe it will be in the interest of bringing out the facts to mention some of the statements that have been made and to call attention to the differing point of view held by the representatives of the medical profession.

I would like first to point out that perhaps in a malicious, perhaps in a wholly humorous, manner the representatives of the medical profession who are sent by the American Medical Association are commonly referred to as a "hierarchy." It has been said by a previous witness at the hearing that the views represented by these men are just the views of this inner group and do not in any way represent the views of the vast majority of the doctors in the United States.

Senator Murray:—No one on this committee has referred to them as a hierarchy, or made any slurring remarks toward any member of the American Medical Association.

Dr. Fishbein:—With that statement, I will omit any further discussion of that point.

Senator Murray:—If a statement of that kind appears in the public press, we could not be held accountable.

Dr. Fishbein:—It appears in the record of the hearings.

Senator Ellender:—A witness so testified?

Dr. Fishbein:—Yes, Mr. Lee Pressman of the CIO.

Senator Murray:—Of course we could not be held responsible for statements made by a witness.

Dr. Fishbein:—No. I merely wished to correct the point of view that what we have had presented here is just the view of the officers who are here. The views which we have presented were adopted by the House of Delegates of the American Medical Association after a considerable number of hearings held by a Reference Committee before which there appeared scores of men.

Senator Ellender:—Doctor, I think some member of the Association testified yesterday that there were 130 some-odd members—

Dr. Fishbein:—113,113 physicians are members as of May 1, 1939, out of a total licensed to practice of approximately 170,000, of whom approximately 14,000 are over 65 and 145,000 actually in practice.

Senator Ellender:—Now the delegates met in St. Louis?

Dr. Fishbein:—Yes, sir.

Senator Ellender:—How are they selected?

Dr. Fishbein:—They are selected by the houses of delegates, the representative bodies of the individual state medical societies. These houses of delegates are in turn selected by the county medical societies which compose the individual state medical societies.

Senator Ellender:—How are the selections made from the states?

Dr. Fishbein:—They are made by nomination and election from the state medical society house of delegates.

Senator Ellender:—In what proportion to each state?

Dr. Fishbein:—The proportion is 168 delegates for 113,113 physicians. There were approximately 7,500 physicians in attendance.

Senator Ellender:—And the power to act, though, on any proposition that came before the Association, was in the hands of these delegates?

Dr. Fishbein:—Entirely in the hands of the House of Delegates, which determines policies and is the only body which can determine policy for the American Medical Association.

Senator Ellender:—Now some witness testified yesterday that hearings were held?

Dr. Fishbein:—Yes.

Senator Ellender:—Witnesses were produced before the House of Delegates?

Dr. Fishbein:—Yes.

Senator Ellender:—How many persons or doctors appeared in favor of the Wagner bill before your House of Delegates?

Dr. Fishbein:—Before the Reference Committee of the House of Delegates I would say that there were possibly five or six men who thought that, with suitable amendments, something might be done with the Wagner act.

Senator Ellender:—Who were those men, members, delegates, or were they members of the Association?

Dr. Fishbein:—Some of them were delegates, some were members of the Association and some were representatives of the hospital associations.

Senator Ellender:—How many were delegates?

Dr. Fishbein:—I would say not more than five of those who favored the Wagner act with amendments.

Senator Ellender:—Out of how many witnesses?

Dr. Fishbein:—Out of a score or more witnesses.

Senator Ellender:—Well, could you be a little more specific?

Dr. Fishbein:—I would be glad to send you a record of the hearings with the exact number of men and the men who made the statements and approximately what they said.

Senator Ellender:—I appreciate your offer, but we have so much to read now.

Dr. Fishbein:—My personal impression of the hearings which I attended—and at which I myself did not speak—was that those who were inclined to favor the Wagner act with amendments were the men in the House of Delegates who represented the state health officer group. The representatives of hospital groups and individual delegates who were not associated with state health departments were not inclined, in general, to favor the Wagner act with or without amendments.

Senator Ellender:—How did you come to classify them—

Dr. Fishbein (interposing):—They are known, of course. The members of the House of Delegates who happen to be state health officers are, of course, quite widely known.

Senator Ellender:—The selection, however, is made from back home?

Dr. Fishbein:—Yes.

Senator Ellender:—What proportion of the doctors do you think these five delegates represented throughout the entire membership?

Dr. Fishbein:—The five delegates who inclined to favor the bill with amendments?

Senator Ellender:—Yes.

Dr. Fishbein:—I would say somewhere between 5 and 10 thousand.

Senator Ellender:—What efforts were made by the House of Delegates to invite other witnesses to come in and testify?

Dr. Fishbein:—It is a rule that any one who has interesting material or evidence to present may appear and men did appear who were not even members of the Association.

Senator Ellender:—Was that widely advertised?

Dr. Fishbein:—It was announced in most of the newspapers of the United States, and certainly in the headlines of the newspapers in the city where the convention was being held.

Senator Ellender:—If five delegates were in favor of the bill as amended—in spite of that many—is the committee to understand that the delegates were unanimous in opposing the Wagner bill?

Dr. Fishbein:—When the vote was called for, the action of the Reference Committee as brought in to the House was adopted without a single dissenting vote.

Senator Ellender:—Was the vote tabulated or a viva voce vote?

Dr. Fishbein:—It was a viva voce vote, and no one said no. I will proceed, then, to a brief discussion of the possibility of amending the act.

At the Reference Committee the question was raised of the possible amending of the act or certain portions of the act in order to make it available to meet certain needs which I believe all of us recognize actually do exist. On that occasion representatives of the three hospital associations which lead in the United States, namely the Protestant Hospital Association, the Catholic Hospital Association and the American Hospital Association, spoke to the committee. The statement was made that each of these men had worked out fifty different amendments to the section dealing with hospitals alone, which might possibly make that begin to meet the needs that it was proposed to meet.

As we have considered the development of the Wagner act, it has appeared to us that there has been a relentless, persistent, almost a ruthless drive for the development of this legislation over a certain period of time. We trace this development from the beginning of the National Health Survey, which, as you know, was a house to house canvass of 750,000 urban and 50,000 rural families, made by 4,500 WPA workers under the direction of the United States Public Health Service.

Senator Wagner:—Doctor, you use a rather strong term, and I don't know that I was guilty of any such offense. I never intended to indulge in ruthlessness.

Dr. Fishbein:—I will endeavor to explain the term as I go along.

Senator Wagner:—I would like to have it explained now.

Dr. Fishbein:—We see a definite development of this legislation without any opportunity being given—although our services were frequently offered—to the medical profession, to consult with those who were developing the National Health Program, the National Health Conference and the bill itself, which grew out of the National Health Program.

Senator Wagner:—Well, Doctor, of course I am not acquainted with all of these activities you talk about, but a Dr. Booth from my own state appeared before this committee early and I think it was Senator Ellender that asked him if he wouldn't cooperate with the committee by suggesting amendments.

Dr. Fishbein:—You refer to this committee. I referred to the time of the drafting of the bill.

Senator Wagner:—Yes, I know.

Dr. Fishbein:—The committee has been more than kind in giving us full opportunity to present the point of view of the medical profession. This is the first occasion on which such an opportunity has actually been given.

Senator Wagner:—Well of course, this is the first occasion that we have had hearings on the bill. This is the time to cooperate.

Dr. Fishbein:—I refer largely to those who were concerned with the development of the National Health Program, the National Health Conference, the hearings on the National Health Program, after it was developed, and the time of the drafting of the bill. I have no objection whatever to saying again that I believe the fullest opportunity is now being given here to the medical profession as represented by the American Medical Association for the first time to express its point of view.

Senator Ellender:—Doctor, in that connection are you aware of the fact that many of the bills that are introduced and on which hearings are held you wouldn't recognize them after they got out of this committee?

Dr. Fishbein:—I am quite sure of that.

Senator Ellender:—Well, that, in a measure, is the purpose of these hearings, so we can get your ideas and if we can write them into this bill. That is what we desire to do, and that is why I emphasized to Dr. Booth, after he testified, and I think some of it is in the record, but I begged him to go to St. Louis and try to get the medical association to work with us, to try and offer some suggestions.

Dr. Fishbein:—That point of view was given the most serious consideration.

Senator Ellender:—So that the suggestion made to Dr. Booth was made to the Association—

Dr. Fishbein (interposing):—The possibility of amending the act was considered but the House of Delegates did not choose to believe that it was possible to amend this act to make it meet the needs that it is proposed to meet, and the general objectives which we all agree are desirable.

Senator Wagner:—By amending an act you can offer a completely new act, if you really desire legislation.

Dr. Fishbein:—It is quite possible that I shall recommend later the striking out of all of the act except the enacting clause and suggest certain other possibilities for meeting the needs.

Senator Ellender:—If you could do that, that is exactly what the committee would like to have you do. And will that have the O.K. of the Association?

Dr. Fishbein:—I will give you the action taken in regard to that when I come to it.

Senator Wagner:—I am not saying that I am going to support it, but I certainly will welcome the suggestions. And I may say this. This is not any breach of confidence. I spoke to Dr. Booth after the hearing and I asked him if he wouldn't impress on the American Medical Association—I know something about your activities and I suppose you are harder to convert than some others, but I am never hopeless about those things—and I asked him if he wouldn't say to the members of the Association that I am anxious to receive their cooperation and their advice and guidance in this matter, and he asked me whether he was authorized to say that, and said absolutely.

Dr. Fishbein:—May I say, Senator, we would have felt better if we had had opportunity at the time the bill was drafted to present some of these points.

Senator Wagner:—Well, the opportunity is here now.

Dr. Fishbein:—Yes, we are proceeding now from that.

Senator Murray:—Senator Wagner is not a member of our committee, so we have got an advantage over him here. We are going to handle this bill.

Dr. Fishbein:—That is very good!

Senator Murray:—I think we are getting to develop into a sort of a mutual admiration society here this morning.

Dr. Fishbein:—It is very simple to be pleasant.

Senator Murray:—I think we are getting along very nicely.

Dr. Fishbein:—I think so too.

Now one of the main objectives to which the American Medical Association representatives have referred in connection with the drafting of suitable legislation to meet the general objectives on which we are all agreed is the possibility of an attempt of a unified organization under the federal government for the handling of medical affairs, and integrating properly the care of the sick, preventive medicine, child welfare activities, industrial medicine and many other similar aspects of medical care, into a suitable arrangement.

I may say that when I first heard the words "Interdepartmental Committee to Coordinate Health and Welfare Activities of the United States Government" I was under the strange impression that it proposed to do what the title indicated, namely to draw together all of those activities of the government which were concerned primarily with the problems of medical care and of welfare as associated with medical care.

However, as we went along we discovered that that was not apparently the intention and is apparently not the expressed intention at the present time.

I would point out that the federal government now, in addition to the army and navy medical department, has innumerable departments which are greatly concerned with the problem of medical care, which by this act are still left to operate independently, to duplicate certain activities, to spend a good deal of unnecessary time and money and employ excessive personnel.

Now I will refer specifically to those departments. I would point out that the Children's Bureau, which is located in the Department of Labor, has both medical functions and other functions which are not strictly medical. Many of the functions thus concerned are also acted on to some extent by the United States Public Health Service and perhaps to some extent by other agencies which I will mention as I go along.

In the Department of Agriculture we have the Food and Drug Administration, whose problems as you know are largely medical in character.

In the Federal Trade Commission we have supervision over the claims made for various foods, drugs and similar products, used in relationship to medical service.

Also in the Department of Commerce there is a Bureau of Mines which is concerned with a certain number of medical functions.

In the Department of the Interior there is the care of the Indians, the control of two medical schools, the care of several institutions for the mentally defective.

In the Department of the Interior also there are certain educational functions which are, to some extent, medical in character.

In the United States Public Health Service, which is associated with the Department of the Treasury, there are certain functions which are wholly in the field of preventive medicine; other functions which are in the field of medical care. Then there is the control of narcotics, narcotic addiction, and the administration of two hospitals for that purpose, one of which is now located in Texas and the other in Kentucky.

In fact, there is no division of the government which does not now have certain medical functions. I believe the total expenditure on all of these functions, aside from the army and navy medical departments, amounts approximately to between $125,000,000 and $150,000,000 a year.

It occurred to us that an interdepartmental medical committee to coordinate these different departments under a single head, whether or not he is a member of the cabinet or one of the new types of secretaries to be created, is after all for the government to establish, but certainly unification of these functions might be of importance.

Now in addition, as you know, there have been created in recent years a considerable number of federal functions which are outside cabinet control, created as new divisions of the government. Therefore we have in the CCC a medical department, we have in the WPA a considerable amount of medical activities, we have the PWA concerned with the building of hospitals, and hospital construction has been active with government aid during the last few years.

I receive regularly from the PWA and the WPA and these other departments significant items of publicity having to do with the considerable amount of hospital building which they have aided in recent years, and the number of additional beds supplied through such agencies.

Senator Wagner:—You favor that?

Dr. Fishbein:—Yes, I think it is excellent. I propose later to refer to certain wastages of which I have personal knowledge. As a citizen I think these should have a little governmental investigation.

Under a certain branch of the government which has to do with the aiding of the rural areas there are now in existence in some twenty-eight or twenty-nine states plans for aiding people in rural districts to get complete medical care. Obviously that sort of function should be intimately associated with any government attempt to handle the problem of medical care. If I may, I will refer to an article in the *Saturday Evening Post* entitled "Rehearsal for State Medicine."

I could go on with other government functions, but I believe I have indicated the widespread—

Senator Ellender (interposing):—I wish you would go on with more of them, if you know of any. This is very interesting and I would like to probably "jine" some of them, as the darkies say.

Dr. Fishbein:—I could refer to the Coast Guard Service, which carries on a certain amount of first aid relief.

Now then, I concede that it would be the service of the Interdepartmental Committee to Coordinate the Health and Welfare Activities of the United States Government to bring this matter before the Congress of the United States as probably its first function. Obviously the creation of a suitable mechanism to handle medical care in the United States should depend on setting up an agency in which there would be an avoidance of duplication of effort and proper integration of each phase of the service under a single head. This would produce both economy and efficiency and a great deal of absence of the difficulty which is now involved in having to meet numbers of different governmental agencies in order to accomplish a single purpose.

Senator Ellender:—Would you be able to outline these various agencies that are now engaged in this work? You evidently have this worked out?

Dr. Fishbein:—We have a complete analysis for all the agencies of the government, and the appropriations made for each of them in different years.

Senator Ellender:—Can you furnish that to the committee?

Dr. Fishbein:—Yes, we would be glad to do that right away.

Senator Ellender:—It indicates the departments?

Dr. Fishbein:—The department, the amount of money spent, the nature of the medical service and many other facts that would be of great importance to this committee.

Senator Wagner:—Are you for putting them all together under one head?

Dr. Fishbein:—I believe it would be desirable to integrate the various medical functions of the government in a unified setup which would prevent duplication of effort, loss of efficiency and wastefulness.

Senator Wagner:—In other words, to sum up what you have just said, you do favor putting them all under one head, all that you have enumerated?

Dr. Fishbein:—Yes, within the possibilities of government, because I will now point out, and I hope to emphasize, the point that I am not a lawyer, primarily, and that while—

Senator Wagner (interposing):—Or a politician, are you?

Dr. Fishbein:—I hope not. I have never been accused of that.

Now as far as concerns the Constitution, I will say that the mechanism of fitting present activities, or future activities of the government into the Constitution is not my function.

The Interdepartmental Committee, on the basis of the National Health Survey, brought out what was called a National Health Program, which was a long range program planning for the development of the medical activities of the United States over the next ten years. At the time of the National Health Conference, I expressed the opinion that I did not consider it would be safe to plan a program of medical care for the United States for the next ten years on the basis of conditions as they exist today. With the amount of unemployment that exists today, with the amount of need that exists today, we have one concern; with the amount of employment and the amount of need that might exist ten years from today, we have another concern.

It is desirable to plan ahead, but frequently such planning turns out to be unfortunate. I remember attempting in 1918 to aid a distinguished committee to try to estimate the number of soldiers with nervous and mental disease, with cancer, with degenerative disease, and other conditions that would require care in all of the years from 1930 up to 1950. This was necessary in order to prospect a hospital building campaign for the future.

If we look back on the plans then projected in the light of conditions then existing and with our knowledge of medicine as it then existed, many of our estimates will have been found wholly away from the actual needs at the present time. I refer, for example, to the changes that may be brought about by the development of a new discovery that would relieve us of the care of a considerable number of persons with dementia paralytica, or the development of insulin, or the development of liver extract for pernicious anemia, or various new methods for the handling of cancer, or tuberculosis, which give us an entirely new picture after twenty years.

In this connection also I would like to refer briefly to the differences of scientific opinion that may exist in estimating a

so-called need. At present, for example, a distinguished officer of the United States Public Health Service has made addresses in various portions of the United States condemning to some extent the use of the tuberculin test as a means for determining whether or not a child has tuberculosis, or its relationship to tuberculosis. In the statement made by Mr. Homer Folks—

Senator Wagner (interposing):—You mean the x-ray test?

Dr. Fishbein:—Tuberculin test. In the statement made by Homer Folks, he was quite content to rely on the x-rays apparently alone. I know of no doctor in the United States who would rely on the x-rays alone in making a diagnosis for tuberculosis. I know of no authority in the United States at the present time, except perhaps this one authority in the United States Public Health Service, who is convinced that the tuberculin test might as well be discarded. That is a debatable point in medicine. And yet, presuming that this particular officer were to be put in charge of setting up the standard for determining needs in relationship to tuberculosis and the sole authority placed on him, he would find himself in a considerable disagreement with members of the medical profession who are generally recognized throughout the United States to be leaders in their field.

Senator Murray:—Doctor, it is apparent that you won't conclude your testimony for some time.

Dr. Fishbein:—Well, if you are interested in it, I can go on quite a while.

Senator Murray:—We are much interested, but we want to give you a full opportunity to tell us everything that you want to.

Dr. Fishbein:—I will be glad to come back after lunch.

Senator Murray:—We will recess now, then, until 1:30 and you can proceed at that time.

Friday, May 26—Afternoon

Senator Murray:—We will proceed with the hearing. You may resume, Doctor.

STATEMENT OF DR. MORRIS FISHBEIN (resumed)

Dr. Fishbein:—Mr. Chairman, at the time of the adjournment this morning I had reached a point in the development of the Interdepartmental Committee which led toward the National Health Program of the National Health Conference, and that in turn toward the development of the Wagner Health Bill. Now at the time of the National Health Conference a number of the representatives of the medical profession were present and had opportunity to speak. However, the time of that conference was the first opportunity that was available to the representatives of the medical profession to see the National Health Program. Obviously the time was hardly sufficient to examine carefully into the proposals that were made, or the evidence or data on which the proposals were based. Just as soon, however, as the National Health Conference adjourned the American Medical Association called a special session of its House of Delegates, the third such special session in the history of the organization, for the purpose of examining the National Health Program and adopting the point of view of the medical profession toward the National Health Program.

At the special session of the House of Delegates a considerable amount of evidence was presented, differing, to some extent, with the data that had been developed and offered by the National Health Survey, in relationship to the National Health Program. In addition a special committee was appointed by the House of Delegates to confer with the Interdepartmental Committee, and with its Technical Advisory Committee, relative to the proposals of the National Health Program. That committee met on two occasions, I believe, with the Interdepartmental Committee and had opportunity there to present some of its objections to certain portions of the program, and some objections with respect to some of the basic data and other considerations that were considered fundamental by the medical profession.

I mention this merely because, in the previous testimony presented here by Miss Josephine Roche, the point is made that nineteen such conferences were held by the Interdepartmental Committee between the time of the National Health Conferences and the sending of the National Health Program by the President of the United States to the Congress in January. A considerable amount of study and careful analysis of the National Health Program, as sent in January and as presented in July, reveals no significant change, modification or variation resulting from the nineteen conferences. Certainly none of the basic points brought out by the medical profession were introduced into the National Health Program as sent to the Congress by the President.

I would like to mention that the President of the United States himself did not urge immediate enactment of the National Health Program; that he recognized the report of the United States Public Health Service on the excellent health conditions in the United States during 1938, and that the President of the United States sent the National Health Program to the Congress with a recommendation for careful study, and that it is now with the Ways and Means Committee, I believe, of the House of Representatives.

Also, I would like to point out in this connection that obviously if an emergency existed the President might well have recommended, let us say, immediate enactment of some portions of the National Health Program; nevertheless, no such recommendation was made, and we had but a recommendation for careful study.

Another consideration which came before this committee concerned the proportion of the medical profession who favor the passage of the Wagner Health Bill. The statement was made that 1,500 pediatricians of the United States are behind the Wagner act. Now I know of no evidence, no data which would warrant such a statement. In fact I made particular inquiry of the Legislative Committee of the American Academy of Pediatrics, and of a considerable number of its members relative to the question as to what extent an effort had been made to find out exactly what the pediatricians thought of the Wagner Health Bill, and what number of pediatricians were behind the Wagner Health Bill, using the exact words which appear in the record. I am unable to find any evidence to substantiate that, and I am able to find a considerable amount of evidence differing from that point of view. That does not mean to say, however, that I am not of the opinion that many of the pediatricians of the medical profession would welcome certain types of aid to the development of a further preventive medicine program in relationship to child care or in relationship to extending the ability to feed infants properly in certain portions of the large cities or, in fact, in many other ways. However, there is nothing specific to be offered in that connection.

Another appearance before this committee had to do particularly with the problems of maternal mortality. I believe it will be important to the committee to have a little consideration—brief I hope to make it—having to do with the exact figures relating to maternal mortality in the United States. They are frequently compared to the disadvantage of the United States in all sorts of promotions that are planned to secure vastly increased funds in relationship to maternal mortality. Quite commonly the comparison is made with England, Ireland, Scotland and Wales, pointing out that the maternal mortality rates in the United States are worse than in England, Ireland, Scotland and Wales, or that the maternal mortality rates are worse than those of Sweden or of the Scandinavian countries. I would like to point out in this connection that the comparison is quite unfair. If you will take the rates in some of our better constituted states, as for example New York, Massachusetts, Michigan and Illinois, and compare them with England, Ireland, Scotland and Wales, we appear to have a considerable advantage in relationship to such comparison. A more interesting comparison, one better warranted, would be one which would take into account the fact that in the United States we have our frontiers within the country. Therefore a more reasonable comparison would be the United States as a whole with England, Ireland, Scotland, Wales and portions of South Africa and the Balkans. Such a comparison would give us a comparable situation and perhaps a more reasonable comparison as to maternal mortality rates.

Furthermore, I would like to point out that most of those who have appeared here before your committee in relationship to the question of the extent of maternal mortality work and the care of mothers in childbirth have been the obstetricians, representatives of the obstetrical specialty, who have given their full time to obstetrics in hospitals, and often particularly in maternity hospitals. While I am aware of the fact that there are conditions in our frontier areas in which maternal aid can be improved and much can be done for mothers in childbirth, it is not quite correct to accept the point of view of the obstetrician who has developed his entire technical knowledge in the hospital. I would like to point out, nevertheless, that the comparison I have just stated here was given to me by Dr. Joseph B. De Lee of the Chicago Lying-in Hospital, whose record in this matter is well recognized.

In other testimony which was offered here, I believe in Senator Wagner's personal appearance before the committee, particular emphasis was placed on certain facts in relationship

to two diseases, diphtheria and infantile paralysis. There was no tuberculosis in Detroit, the gentleman said, of any account. Senator Wagner said that he would produce later the authority whom he had consulted with regard to this matter.

It is generally well recognized in medical practice that the maintenance of a drive on a single disease is likely to result in almost any part of the country in a temporary lowering of the rates in relation to that disease. However, it is not possible to maintain such a drive on a single disease as a permanent effort. At such moments we put our entire effort against a single disease. I could point to the drive against diphtheria which took place in Chicago, or I could point to this drive against tuberculosis in Detroit and recognize that the chief value of such a drive is its educational effect on the community, calling the attention of the community for the time being particularly to that disease. But it is not possible to maintain such a drive. Frequently there is a reaction after the drive which takes you into a condition in which perhaps you are worse off than you were before the drive started. I think if anyone will look at the tuberculosis work in Detroit since the drive has stopped it will be discovered that even now it is not maintained at the level at which it was maintained during the time of the drive. With no amount of money would it be possible to maintain that particular kind of a drive permanently in any community. One of the chief reasons would be that such a drive would dislocate entirely the preventive medicine effort. By the extra effort put on a single disease one diminishes equally the effort against a considerable number of other diseases.

How do the figures compare before the drive and since the drive? With a condition like tuberculosis it is not safe to base figures on a matter of a year or two. But comparing the rates of the entire area over a long period of time with the rates of cities of comparable population it will not be found that such a drive has a permanent effect. It does have some value in educating the public. Such figures are susceptible to all sorts of analyses, as I believe Prof. Haven Emerson pointed out yesterday. Certainly that fact must be taken into account in relationship to the general trend downward of a considerable number of diseases at certain periods and a trend upward at other periods.

Again it has been said that a vast fund is of the greatest importance in attacking many of our disease problems. In the report on the National Health Program, much is made of the possibility of control of crippling diseases, and particularly infantile paralysis. I happen to be associated closely with the handling of more than a million dollars which has been collected in connection with the National Foundation for Infantile Paralysis. In recent meetings of the body of the organization charged with the dispensing of the funds, having a million dollars available to be disposed of in any manner that this committee might wish, the committee having practically supreme authority over the disposition of this one million dollars, it was exceedingly difficult to find a way to spend $100,000 efficiently and successfully in encouraging research in infantile paralysis. Having a million dollars, it was difficult to find a legitimate number of research projects warranting the prompt expenditure of $100,000 by men capable of doing good research work. Making an allotment is not the primary consideration in the development of an attack on disease. Knowledge is the first consideration, and knowledge can be accumulated only in relationship to the possibility of having men capable of doing research under conditions where good research work can be done, and in addition to that having material on which to work. For example, if we had an infantile paralysis epidemic extending over large areas of the United States we could do a lot more research on infantile paralysis than we are able to do. It is the tendency of the disease to disappear during the cold weather and then to break out anew during warm weather. Unless we have cases in which to make tests and studies it is extremely difficult to make studies.

Let us consider the question of the provision of hospitals. As I mentioned this morning, there has been no lack of hospital construction, no lack of the additional building and provision of new beds in recent years. We have seen a considerable number of hospital projects being carried out on a scale much beyond and at a rate much beyond what we had five or ten years ago. I believe the senator from Louisiana is acquainted with the great hospital which is now being constructed in New Orleans, providing a great number of new beds. I recently visited Richmond, Va., where a thirteen-story hospital is now being built, largely with public funds, and where I was informed three other additional hospitals are contemplated, and the funds are apparently being sought. I have seen one hospital to which I wish to refer in this connection, namely the hospital which was built in Hot Springs, N. M., costing $2,000,000, with the provision of ninety beds for crippled children. The town has 300 people and is approximately 185 miles from any place.

Senator Wagner:—You did not mention these hospitals, of course, in criticism of their construction?

Dr. Fishbein:—I am about to criticize the one in New Mexico, not the other two, the new one in Richmond or the new one in New Orleans. I am criticizing the one in New Mexico as an example of the fact that abuses may arise in relation to the building of certain of these hospitals. Obviously the one in New Orleans was a necessity. In fact, if I may digress at this point, I think I may have had something to do with aiding and encouraging the building of the hospital in New Orleans. I came to New Orleans sometime ago and discovered four Negroes using one bed in a city-managed institution. I saw to it that it got proper publicity in the press. That intensified, to some extent, the drive for sufficient hospital facilities.

Now then the hospital in New Mexico to which I referred has ninety beds for crippled children. When the time came to man the hospital it was discovered that no accredited orthopedic surgeon was available in New Mexico for the job. Therefore, by special action of the legislature an orthopedic surgeon was employed from El Paso, Texas, at a pay said to be $7,200 a year to ride 185 miles into New Mexico once a week to do the necessary surgery. The rest of the time the hospital was under the management of a resident who was developing himself as a specialist in the field of orthopedics.

A population of a certain size can develop only a certain number of cripples. That fact must be taken into account. With a population of a certain size you develop a certain number of cripples; that is, unless an epidemic of crippling disease breaks out. Now after its establishment the hospital is actually in difficulties and it will not have a sufficient number of cripples to use the facilities. It was built particularly for that purpose. Already it is a matter of concern, both to the people of New Mexico and to the country generally, and of all physicians interested in these matters, as to what is to be done with this hospital. If you will estimate the cost you will discover that it cost $22,200 a bed for a building and equipping, whereas it is possible to build a good hospital today at a cost of $5,000 a bed.

Senator Murray:—Who built it?

Dr. Fishbein:—It was built partially on federal funds and partially on state funds.

Senator Murray:—At what cost?

Dr. Fishbein:—$2,000,000.

Senator Murray:—Couldn't it be converted into a general hospital, used for other purposes?

Dr. Fishbein:—I will say, from correspondence that I have available, there is evidence that that is a matter which is worrying particularly the senators from New Mexico.

Senator Wagner:—Doctor, how were the funds obtained? Wasn't there a proper showing made in order to be able to make the money available?

Dr. Fishbein:—I believe that that would be a matter of suitable inquiry. I believe that there is a custom that those who obtain money are supposed to show a need, and that having shown this need certain money dispensing agencies are authorized to grant the funds for that purpose. I know of no other method of obtaining money in Washington except through that technic.

Senator Wagner:—Was that money obtained from the WPA or the PWA?

Dr. Fishbein:—I have not checked into that particularly. I merely know the hospital is a crippled children's hospital built with state and federal funds.

Senator Wagner:—At a cost of $2,000,000?

Dr. Fishbein:—At a cost of $2,000,000 for building and equipment.

Senator Wagner:—Do you know what proportion was contributed by the government?

Dr. Fishbein:—I can investigate and supply that, if you wish to have the figures.

Senator Murray:—Go ahead, Doctor.

Dr. Fishbein:—Now the suggestion was made, incidentally, from two different sources: One, that this be developed as an institution for the tuberculous, the other that it be developed for the care of children convalescent from rheumatic fever. The latter suggestion would be obviously impossible, because it would not be considered a good atmosphere, or a good temperature to which to ship children with rheumatic fever.

At one point the National Health Program recommends additional funds in relationship to rheumatic fever for the removal of a considerable number of tonsils and adenoids.

Senator Wagner:—What would be the greatest benefit in counteracting the disease?

Dr. Fishbein:—It would be in restoring the patients to working condition. Here again is a case in which the medical profession, speaking as experts in relationship to the condition called "rheumatic fever," would be inclined to express doubt. So many of the points have to do with the need and the manner in which the need is to be determined that we must recognize the fact that there can be differences of opinion among physicians, and well qualified physicians, as to these matters of need. Any simple mechanism which leaves the decision in the hands of one or two persons is a matter for special consideration. I am inclined to believe that there ought to be enough people and enough of a cooperative effort between the state and federal agency concerned so that there would be no question as to an actual scientific determination of need. I do not believe the Wagner act suitably protects the people or the money of the United States in relationship to that determination.

Senator Wagner:—Have you any suggestion as to how to make that effective?

Dr. Fishbein:—I have, Senator. I believe it must be much more regulated than is provided in your measure, and that it would certainly involve the development of competent scientific evidence in the determination of need, based on the experience of recognized experts whose opinions would be given weight and value, and which might not be discarded at the behest of a single individual.

Senator Wagner:—Doctor, I take it you are acquainted with title VI of the Social Security Act?

Dr. Fishbein:—I believe that much good has been done in relationship to some of the use of money that is given to the United States Public Health Service to meet certain needs, yes, sir.

Senator Wagner:—That is similar to the provisions of this act?

Dr. Fishbein:—Yes. I believe also that a careful scrutiny in relationship to the practicability of those projects should be made by the scientific investigators, who would study and make a careful resurvey of the exact manner of use. This would reveal wastage in some instances.

Senator Wagner:—Is that surmise or do you know that that is so?

Dr. Fishbein:—Well, that is based largely on the statements that are sent to a periodical of the type of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION by physicians in various parts of the country who venture their criticism. I am not willing to accept such criticism on the statement of one physician who writes. I believe that, if the federal government were interested in resurveying directly the manner of disposition of money and meeting certain needs in relationship to preventive medicine, occasionally it could be found that the money was not employed with the greatest of efficiency.

Senator Wagner:—That is a matter of examination?

Dr. Fishbein:—Yes.

Senator Wagner:—As to the general method involved, as to the aim in making grants in aid?

Dr. Fishbein:—I propose to discuss the question of grants in aid and to offer my own concept of some different method of meeting the needs. I think there are needs that are required to be met. In fact, in my opening statement I said no one can disagree with the general objectives that have been stated for the Wagner act.

Senator Wagner:—That is a good beginning.

Dr. Fishbein:—Thank you, sir. I think you and I could get along very well.

Senator Wagner:—I think so, too. My son told me that.

Dr. Fishbein:—Yes, he told me he was going to tell you.

Senator Wagner:—Listening to you, I think he had tremendous courage in trying to debate the matter with you. I suppose you were generous with him.

Dr. Fishbein:—You are not going to embarrass me, I hope.

Senator Wagner:—No.

Dr. Fishbein:—When we consider the needs expressed as the result of the National Health Survey we discover that, according to the figures which are offered, approximately 17 per cent of the people with incomes of $3,000 a year or over, families with incomes of $3,000 a year or over, failed to receive or obtain medical care for chronic disabling illness. According to the same survey, 30 per cent of people with annual incomes per family of $2,000 or less failed to receive medical care for chronic disability or chronic disabling illness, and 28 per cent of people on relief failed to receive medical care for chronic disabling illness.

Senator Wagner:—You do not mind these interruptions?

Dr. Fishbein:—No, sir, I enjoy these interruptions.

Senator Wagner:—Yesterday we had a report from one of the quasi-welfare commissioners of New York.

Dr. Fishbein:—Yes.

Senator Wagner:—He said that on the present relief roll, of those receiving relief, 15 per cent were due to illness.

Dr. Fishbein:—I wouldn't doubt that. That would coincide rather well with these figures, particularly as New York in medical affairs is far beyond the rest of the country; in fact, it is stated in New York that today 50 per cent of the people receive free medical care. I am not sure of that figure, but I think your son made that statement in Brooklyn on Tuesday night. I have not yet verified it; I expect to verify it, however.

There is nothing in the National Health Survey which establishes any reason why 17 per cent of the people living in families with incomes of $3,000 a year or over fail to receive medical care. Obviously, unless all of the family's money was utilized for other purposes, something would have been available for medical care. The correction of that condition would not lie primarily in the lack of funds. I might say that I have my own concept as to why 17 per cent of people in families with incomes of $3,000 a year or over failed to receive or generally use medical care for chronic disabling illness. I am of the belief that about 10 per cent of the people of the United States do not want medical care under any circumstances. I mean even if it were put in their hands for nothing they would not take it. That is based on a survey made by the American Psychological Association, which discovered in the United States approximately twenty-seven groups who do not believe in medicine in any way, shape or form and who oppose its use whenever they can. Now obviously that would be deducted from the 17 per cent, which would leave you 7 per cent.

In the state of Massachusetts a survey was made under the supervision of the health department, using five trained medical investigators, with house to house contacts, involving 30,000 families. It indicated that only 3 per cent of the people of Massachusetts failed to receive medical care because of lack of funds, and 71 per cent of those who failed to receive medical care failed to receive it because of some breakdown in the line of communications that ought to bring those needing medical care to the places where medical care was available for them.

Obviously this question might well be argued from a philosophical point of view. It was referred to by Dr. Robb in his discussion yesterday. Obviously we do not have enough provision for the education of the public. There is a failure of the profession commonly known as social service to achieve its object of acting as a liaison between the medical profession and those needing medical service. I feel that in many instances they have been content to make a diagnosis of the condition and then not do what could be done in relationship to the correction of the condition.

Now we go to the 30 per cent of families with incomes of $2,000 a year or less who failed to receive medical care because of chronic illnesses. It is my belief that we must deduct from that figure the 17 per cent I have already mentioned in relation to those families with incomes of $3,000 a year or over. I take it the people with families with an income of $2,000 a year or under are normally intelligent but no better educated and of no finer type of intellect, which would cause them to do something that people with $3,000 a year or over would not do, leaving you a differential for that group of 13 per cent.

Again we must recognize that of the people in the United States with incomes of $2,000 a year or under we have a vast preponderance of certain poorer groups in the population, particularly the Negro group. There are perhaps from 90 to 95 per cent in the Negro group with families with incomes of $2,000 a year or under, whereas from 45 to 55 per cent of whites, roughly, would be in families with incomes of $2,000 a year or under. Thus we come to a localization of this problem, particularly in those states which the President himself has characterized as public problem No. 1. In those states the question of medical care is intimately bound with the economic situation of the state. The state of Senator Ellender is to be particularly congratulated on having made a considerable amount of progress in solving this problem by a technic developed in that state. Although I am not in a position to criticize the technic one way or the other, in any event they have answered the problem to a more considerable extent than that same problem has been answered in other states with a similar population and a similar character of medical problem.

Senator Wagner:—Isn't that also a question of providing for technical hospital service?

Dr. Fishbein:—I believe the provision for technical hospital service is a great help. I may point out that in the state of Mississippi, for example, they have 0.7 bed per thousand for the Negroes as contrasted with something like 2.3 or 2.4 for the

whites, and as contrasted with 3.5 for the population generally. The state of Mississippi certainly has not come as far as the state of Louisiana in this regard. Whether or not Mississippi can do so is a question that is to be determined.

Senator Wagner:—Doctor, right there, may I ask you if the state of Mississippi does not have the resources to take care of its quota of medical services and hospitalization that the federal government should not step in to provide those resources?

Dr. Fishbein:—I believe that no citizen of the United States for whom a demonstrated need for medical service which he is unable to supply exists should do without medical service.

Senator Wagner:—Even though it may be apparent that the federal government has to help?

Dr. Fishbein:—Yes. I believe that we are confronted here with a humanitarian problem that is outside the range of other problems.

As to the technic, again I make the reservation that I would not like to see a technic set up which would destroy democratic standards.

Senator Wagner:—Do you think we have intelligence enough to formulate methods to obtain these objects?

Dr. Fishbein:—I think we have, but sometimes we do not use it.

Moving on to the 28 per cent of persons on relief who failed to receive medical care, I point out that in many states people on relief are entitled to medical care merely by applying for it. For example, in the city of Chicago, through the state relief agency and with the aid of local funds, a system has been set up whereby any person in the community requiring medical services may apply at the relief agency and receive medical services from a physician of his choice, some 2,800 physicians having registered their names as willing to give medical service on call to any person requiring medical aid. The fees are adjusted through the relief agency by cooperative agreement between the relief agency and the medical society. The need is determined by special social service investigation under the direction of the cooperative group which has the medical care in charge. A system similar to that is the one referred to by Dr. Benson yesterday affecting the state of Oregon; again suitable relief is developed under local control, utilizing medical agencies with the assistance of state funds and without asking the federal government for a contribution. This indicates that in some places acceptable measures may be set up to solve the problem quite satisfactorily, whereas in other places the problems cannot be solved with the means or the facilities that are available.

As I have said, I am not a constitutional lawyer; I am not prepared to write an amendment; I do not believe I ought to be asked; and I do not believe the medical profession ought to be asked to amend the Wagner act. In consultation with various hospital officials as to that phase of the bill, it was pointed out that experts in the field of hospital administration would require more than 100 amendments just to fix that one portion and to coordinate it with the hospital conditions that we have in the United States today.

The Wagner bill, as I have already pointed out, would perpetuate a system of administration, through diverse agencies, which must inevitably result in duplication of effort.

As practical-minded people and with some knowledge of human psychology, we recognize the desire of an agency, once established, to continue and to expand; but of course that is not our particular concern. We recognize also the desires of various groups of people with special interests to have such agencies placed under a control where they may perhaps have a more immediate connection than under another control. For example, I notice it was the desire of two of the representatives of labor who have appeared before this committee that all functions having to do with industrial hygiene and preventive medicine in relationship to workers in industry ought not to be assigned to any of the agencies mentioned under the Wagner act. Mr. Pressman and Mr. Woll both said they would prefer to amend the act by moving those over to the Labor Department. You have that in the record of the hearings.

Senator Wagner:—I remember that very well. New York State would do it very well.

Dr. Fishbein:—That might be. I am not prepared to say. I would be willing to accept your statement, but, as I said, under this law it cannot be done successfully.

Senator Wagner:—Why?

Dr. Fishbein:—New York is a rich state. It has a vast taxing power, it has considerable funds.

Senator Wagner:—What I would like to do now under this bill—

Dr. Fishbein (interposing):— —is to equalize.

Senator Ellender:—You mentioned the rich state of New York. It gets some of its money from Louisiana and from Texas, from the natural resources throughout the country.

Dr. Fishbein:—I recognize that.

Senator Ellender:—What we want, what we desire is that the states that get the money from us give a little back to us.

Dr. Fishbein:—It is my belief that the task of attempting to equalize these matters for the forty-eight states and the territories of the United States, without a breakdown of the democratic system of government by which we have come to the point in which we now are, is not the task of the medical profession but primarily the task of the Executive and the legislators. It is the medical profession's task to maintain standards of medical service which have brought this country up to the present high place which it occupies. It is our purpose to endeavor to get the widest possible distribution of this high quality of medical service to the greatest number of people to whom it can possibly be distributed, and then if, in doing that, we can still maintain democracy, we have achieved a fine objective.

Senator Wagner:—I was interested in the cooperation because you did state earlier that you complained because you were not asked to sit down and aid in the drafting of the legislation.

Dr. Fishbein:—Yes.

Senator Wagner:—Which showed that somebody in your organization, probably your group—

Dr. Fishbein (interposing):—Not me.

Senator Wagner:—No, but it showed that somebody in your group was interested in aiding in the drafting of this legislation.

Dr. Fishbein:—I believe our function in relationship to the drafting of legislation should be to state the standards and objectives. After we have stated the standards and objectives it is up to the experts to draft appropriate legislation.

Senator Wagner:—I did not say you should be asked to sit down with those who were drafting the legislation.

Dr. Fishbein:—I think we have the function of being recognized as authorities in the field of medical practice and medical service.

Senator Wagner:—Every one wants your guidance. I misunderstood you. I thought you complained because your organization was not asked to sit in with others to draft the legislation.

Dr. Fishbein:—Senator, I made no complaint, I merely stated a fact. We were not asked.

Senator Wagner:—You said just a moment ago you should not be asked to aid in the drafting of legislation.

Dr. Fishbein:—I think that might very well be done by those who propose to draft the legislation, after such considerations as we might be able to present on the basis of our expert knowledge.

Senator Ellender:—That is all we ask you to give us now.

Dr. Fishbein:—I propose to read again now, and very carefully, and I believe with special adaptation to the circumstances that have heretofore been set up, the recommendations of our House of Delegates. In introducing it I would say we are convinced that any state in actual need for the prevention of disease, the promotion of health and the care of the sick should be able to obtain such aid without using a system that inevitably stimulates every other state to seek to develop evidence by which it can qualify for a share of the available funds. Certainly the astute minds which conceived the system of federal subsidies and grants in aid with matching appropriations should be able to develop some legislative technic which would accomplish the result without the obvious faults of this type of legislation. Our House of Delegates suggested either a federal agency to which any state in need of federal financial assistance might apply, or a new agency created specifically for this purpose, or some adaptation of the relief mechanism already in existence.

We are not constitutional lawyers, and the nation has not indicated any strong desire to change the constitution in order to make available new technics in the administration of medical service.

Let us go back to the original plan for treating here, first of all, an assemblage of all the various functions of the federal government concerning that medical care. In attempting to develop legislation of this type, in reference to certain small functions, and to keep them distributed between a variety of federal agencies, the result has been a duplication of effort and a manipulation, for various reasons and in various ways, of the funds available.

As a practical observer in affairs of this sort I have observed on occasion the systems of technic by which those desiring funds applied for them. Obviously there is nothing to prevent a man desiring funds in his state from coming to the federal officer solely in charge of making the recommendation and saying to him "What do we have to do in my state to get some of this

money?" When he is told the rules and regulations under which he must apply and under which he must develop a plan, he then develops a plan which meets the obligations and the requirements.

Furthermore, there are all sorts of technics developed for stimulating the public request for funds. If one wishes to focus on any particular problem in the health field there is well established technic for focusing attention. If the committee is interested, according to my observation, the technic is simply this: A certain amount of publicity is given to the general fact that such a question exists. The next step is to call a conference, to which various numbers of people are requested to come and contribute information, most of those requested having been determined in advance as being somewhat favorable to the idea. Then, having had all this publicity developed through the conference, more announcement of the concept is promoted in order to build up what is commonly called a demand; then the demand having been created, some one is requested to develop legislation to meet the demand.

In the present instance the medical profession has, all along this route, endeavored to insert here and there certain cautions, certain desires, certain requests, certain evidence. As I stated in the preamble to my remarks, in recognition of those desires we request a consideration of the alternative evidence.

Senator Ellender:—Doctor, you recognize that for any state to obtain any of these funds it is necessary for that state to raise its share?

Dr. Fishbein:—Under the present system of grants in aid with matching appropriations, yes, sir.

Senator Ellender:—I mean under the bill we are now considering.

Dr. Fishbein:—Yes, sir.

Senator Ellender:—Is it your view that the same technic is engaged in by the local authorities in a state?

Dr. Fishbein:—I did not gather the significance of the question.

Senator Ellender:—You say that before the demand is created it is necessary that the state itself comply?

Dr. Fishbein:—Yes, sir, and I think that such a technic may be engaged in, and sometimes quite successfully.

Senator Ellender:—And through that medium the taxpayers of that state are asked to raise their pro rata share so as to afford them the right to come up to Washington and get their share of the funds?

Dr. Fishbein:—I believe if any one presents, with a sufficient amount of urging. I have myself frequently, I am frank to say, been engaged in developing a desire for legislation in various states for the control of accidents from Fourth of July fireworks, which I believe have destroyed a great many eyes and made a great many cripples. We indicated the number of cripples that were caused each year by the Fourth of July fireworks. We published these records and released them to the newspapers and called attention to the fact that here is a serious situation. Something ought to be done about this. Pretty soon a lot of people said "Why, something ought to be done about this. People are being blinded and made cripples, and something ought to be done about this."

That is the way we have approached the Wagner Health Bill. People have said there are needs that need to be solved, there are needs that need to be met. We agree with them. We do not believe in overemphasizing the need. We have certain figures, and we have had the figures checked from various sources.

Senator Ellender:—Doctor, any plan that would be worked out you think ought to be worked out under the suggestion made by you?

Dr. Fishbein:—Made by me? By the American Medical Association.

Senator Ellender:—You are speaking for them?

Dr. Fishbein:—Yes, sir.

Senator Ellender:—Any commission, or any official charged with the authority to cover the purposes of the act, would necessarily have to listen to the citizens of all states?

Dr. Fishbein:—Yes, sir. I do not say how much he should listen.

Senator Ellender:—I am just wondering how it would be possible to hurdle the objection that you now are speaking of. In other words, in any act that is passed, Doctor, you can readily understand it is necessary to provide funds in advance.

Dr. Fishbein:—I agree with that.

Senator Ellender:—All right. Now the fund that was provided for may be sufficient to make a start.

Dr. Fishbein:—Yes, sir.

Senator Ellender:—And those funds must be distributed according to a yardstick laid in the bill. Now what is the yardstick you propose in this bill?

Dr. Fishbein:—I maintain the yardstick in this bill is so vague and indefinite in many particulars that it leaves far too much to one authority.

Senator Ellender:—Would you be able to write a yardstick?

Dr. Fishbein:—I might be able to improve the yardstick.

Senator Wagner:—Would you add or subtract?

Dr. Fishbein:—I am of the opinion that it is necessary to have a system of checks and even perhaps double checks. It can be worked out in relation to scientific research. New ideas and new developments are not accepted as such, particularly in the field where the establishment of a perfect yardstick is not yet possible. I can cite an example. I have seen a child born of an indigent family with a harelip that ought to have, at the earliest possible moment, the necessary surgery to correct that harelip. The child would otherwise be handicapped through life. It would not be able to earn what it might earn after suitable correction. I certainly would do all I could do in my own power to aid that child, to correct the harelip, if the money was not forthcoming. In most of the states excellent facilities are available to people who can get the child to the place where such facilities are available.

There is also the possibility that lop ears might interfere with the earning power of a young man. But how far out would the lop ears be before it would be recognized as a need? What agency would determine a simple thing of that sort? Could everybody desiring a correction of his appearance, in order to make a better social appearance, be entitled to bring that in as a need to a medical agency?

I can give you other diseases much more significant. Let us say we have the question of the syphilitic. We have a bill providing three million the first year and five million the second, and then up as far as Congress cares to appropriate to handle that particular problem. Now then there are in the United States a certain number of the syphilitic who are a menace to every one who is anywhere around them. There are a considerable number of cases of latent syphilis whose Wassermann reaction is positive but who would not be a menace to everybody around them. They have a positive test. Sometimes you can treat the patient for years without getting a negative Wassermann reaction yet they can go on with their work without bothering anybody. The doctor can enjoy himself treating them for a long period of time, sometimes with considerable success and sometimes with no success. Who is to set up a yardstick? Shall we set up the yardstick that every man is conceded to be entitled to free treatment for his syphilis until he gets a negative Wassermann reaction? If you do, then the money you have appropriated will not begin to meet the problem. The doctors do not feel the negative Wassermann reaction or the positive Wassermann reaction should determine whether a man becomes a charge on the community.

Senator Wagner:—Doctor, there have been diverse criticisms of those standards set up. Some say they are too restrictive. You make the criticism that they are too vague. Have you in mind now some standards that might be provided?

Dr. Fishbein:—I do not believe I could have in mind such a standard. I do not believe any individual you can get up here, including the best authorities in the United States, could stand here and elaborate the vast system of standards that would be necessary. I need only refer to the attempt to set up suitable standards in relationship to medical care of veterans or in relationship to any sort of medical care at public expense. Committees have sat for days, weeks and months endeavoring to study these expenditures in relation to the care of patients and even yet these standards are constantly subject to change.

Senator Wagner:—When you made the criticism I thought you had in mind some definite way in which it could be corrected.

Dr. Fishbein:—I do not think it could be. I believe the only system would be relative to suitable judgment, based on properly integrating each problem in the general scheme. A problem would then be entitled to have funds devoted to it in any individual state without forcing the development of such a need in some other state. I do not believe the need of New York in relation to some of these conditions is as great as the need in some other states.

Senator Wagner:—That is undoubtedly true. I was trying to think nationally.

Dr. Fishbein:—That is the way I am thinking all the time. Having the picture before us, obviously there must be some system of check and, as I have said, double check. After you have given the money you should be absolutely sure that the

money has been well spent. There must be investigations. The Public Health Service could go out and resurvey occasionally.

Senator Murray:—The government follows that system of checks in connection with the PWA. They have engineers on each project.

Dr. Fishbein:—I think there should be something similar in relation to devotion of funds for medical purposes.

Senator Wagner:—I think there is.

Dr. Fishbein:—I doubt that there is; or, if there is, it is not functioning 100 per cent.

Senator Wagner:—Is not the maternal care, child care and the health service, is not that done very well, very efficiently by the federal government today in granting aid to states?

Dr. Fishbein:—Senator, I can send you copies of various reports that have been made by independent investigating agencies, but I do not care myself to be put into the position of standing here criticizing the conduct of any special governmental department in this field.

Senator Wagner:—I was not going to ask you to criticize any governmental department, except I always understood that was particularly efficiently run.

Dr. Fishbein:—I will be glad to send you a report made by an independent and unbiased investigating agency as to the manner in which the funds were used under the Sheppard-Towner bills, as to where the money was spent, what was done with it and what was accomplished.

Senator Wagner:—The reason I am particularly interested is that some of the other witnesses testifying, Doctor, have contended the provisions were too restrictive, that the federal government was attempting to control the activities of the states by simply seeing that the moneys were expended for the purposes for which they were employed. Now you take the other point of view, and I am sympathetic with your point of view, that there ought to be supervision of the moneys that are spent by the states.

Dr. Fishbein:—Supervision and checking.

Senator Wagner:—There have been some of your fellow doctors who have taken the contrary view.

Dr. Fishbein:—That is between you and them.

Senator Murray:—These reports you referred to, Doctor, will be sent to the committee?

Dr. Fishbein:—I will arrange to have the reports sent, yes, sir. I hope my associates are taking note of it. We already have begun the report on each federal department concerning medical care and the amount of money spent.

Senator Murray:—Doctor, in view of your knowledge and evident efficiency in this field, I would like to see you take this bill of ours and sit down and analyze it section by section for us.

Dr. Fishbein:—I will ask my associates to aid in such analysis of the bill. We have gentlemen who are well versed in the public health portions of it, who could make a complete analysis of the bill, but I would indicate the extreme difficulty, if not almost an impossibility of doing much with this bill as it now stands.

Senator Murray:—It is not necessary to do anything with the bill.

Dr. Fishbein:—Well, Senator, our analysis goes to our corrections.

Senator Murray:—Would you have difficulty in analyzing each section?

Dr. Fishbein:—I am sure that Dr. Woodward of the Bureau of Legal Medicine and Legislation and Dr. Leland of the Bureau of Medical Economics, and Dr. West, will all participate in that report.

Senator Ellender:—Doctor, in making your analysis and criticism I want you to offer suggestions.

Dr. Fishbein:—I have made some, and if I think of any others I will be delighted to make them.

Senator Ellender:—I mean with reference to each section of the bill, beginning with title I.

Dr. Fishbein:—I think the chief difficulty of the bill is the endeavor to make it all inclusive, with obviously inadequate multiple agencies. Thank you.

Senator Murray:—Thank you, Doctor, for your comprehensive statement.

Dr. Cary:—Mr. Chairman, I wish to thank you on behalf of the American Medical Association for the courteous treatment you have accorded the American Medical Association.

ABSTRACT OF STATEMENT BY MISS MILDRED SCHPEISER

Subsequent to the appearance of the representatives of the American Medical Association, hearing was given to Miss Mildred Schpeiser, who appeared on behalf of the American Youth Congress and who seemed to be largely concerned with sex education. She supported the National Health Program, stating "As organized youth, 8,000,000 strong, we are already especially concerned with this matter of adequate medical care. . . . We see this bill as the first step toward the goal."

ABSTRACT OF STATEMENT BY DR. C. C. LUND

Next appeared Dr. Charles C. Lund, representing the Massachusetts Medical Society. He opposed the Wagner bill, stating that his Committee on State and National Legislation of the Massachusetts Medical Society was unanimous in opposition to the Wagner Health Bill in its present form. Dr. Lund supported in general the objectives stated by the representatives of the American Medical Association.

ABSTRACT OF STATEMENT BY DR. J. A. O'HARA

Next appeared Dr. J. A. O'Hara, president of the Louisiana State Department of Health, who stated that they would favor legislation, subject however to a number of suggestions for modifications, including support for general hospitals already existing, asking the state medical advisory council to be appointed by the state medical societies, asking that all health and medical service be placed under the exclusive jurisdiction of the United States Public Health Service. He indicated that in Louisiana there are 100,000 people medically indigent, 6,000 cases of tuberculosis without suitable care, approximately 10,000 children requiring orthopedic care and hospitalization, and he feels that an increase in the amount of money appropriated for beds in mental hospitals is warranted.

ABSTRACT OF STATEMENT BY DR. A. T. MC CORMACK

Next appeared Dr. A. T. McCormack, Louisville, state health commissioner of Kentucky. Dr. McCormack presented a resolution adopted by the Conference of State and Provincial Health Authorities of North America. Eliminating the provincial representatives, they urged the passage of sections 1, 2, 3 and 5 of the National Health Program, opposed the compulsory health insurance, and asked for unification of all federal public health agencies in a national department of health. He stated that usually plans developed in the states are accepted without change or amendment by federal authority. He discussed at length the mechanism of public health administration in Kentucky. Dr. McCormack said "I think the report of the Technical Committee is one of the greatest documents that has ever been written on social welfare in the history of mankind." Dr. McCormack stated that surveys had been made in many of the counties of Kentucky in cooperation with the American Medical Association's survey and that as a result a resolution had been adopted urging the creation of a Bureau of Medical Service in the Division of Local Health Work of the State Department of Health whose duties it shall be to assist the legally qualified and registered medical profession of Kentucky in providing complete service for the indigent and the medically indigent residents of the commonwealth. Dr. McCormack suggested amendments to the Wagner Health Bill calling for unification of the different agencies and calling for utilization of existing hospital facilities. He said there was no reason why it would be difficult to amend the Wagner Health Bill, and he suggested a preamble to the effect that it is the express purpose of the act that no plan approved under it shall provide for the regimentation, federalization or socialization of the practice of medicine, and that it is its express intent to provide for the continuation of the private practice of medicine, which has brought to the people of the several states the benefits of scientific research and medical care. Dr. McCormack stated that the matter of training personnel had been so completely misconstrued that it is astonishing, and that he could not understand the attitude of the previous representative on subsidies for medical education.

ABSTRACT OF STATEMENT BY DR. FELIX J. UNDERWOOD

Next was Dr. Felix J. Underwood, Jackson, Miss., secretary of the state board of health. Dr. Underwood stated that he did not feel the proposed act would "establish a system of health insurance or require the states to do so." He confined his remarks to titles V and VI and stated that he found some objections in some of the other titles. He agreed with Dr. McCormack on the necessity for utilization of existing beds. He said "If every state and local governmental agency could have had the experience extending over many years that has been enjoyed by the state health authorities in dealing with the Children's Bureau and the Public Health Service, 'the wolf cry of bureaucracy and federal domination and control' would never have been raised."

ABSTRACT OF STATEMENT BY MR. DOUGLAS V. SVENSON

Douglas V. Svenson, Deputy Commissioner of Public Welfare for Louisiana, said that the people of the state of Louisiana wholeheartedly favored the principles of the proposed National

Health Act. He thought the bill ought to be revised to give opportunity for use of state-owned and operated facilities that have been constructed since Jan. 1, 1936. He stated that he was wholeheartedly for the bill.

ABSTRACT OF STATEMENT BY DR. C. E. LARIO

Next Dr. Clarence E. Lario, Baton Rouge, president of the Louisiana State Medical Society, stated that he thought the medical profession representatives appeared "with a red flag flaring in front of them, definitely opposed to all form of reform . . . but gradually they became a little more cooperative." He stated that he trusted the committee would, in all sincerity, work with the American Medical Association and the various state societies.

Session of June 1

Before the subcommittee of the Committee on Education and Labor on June 1 Senator Shipstead appeared, stating that he was himself a dentist for twenty years before coming to the Senate, and asked consideration of representatives of the dental profession whom he then presented.

Dr. C. Williard Camalier, past president of the American Dental Association, stated that there are 62,000 practicing dentists in the United States and that 47,000 are members of the American Dental Association. He introduced Dr. Harold Oppice, chairman of the National Health Program Committee of the American Dental Association, who presented the considerations of the American Dental Association relative to the National Health Program and also special considerations of the difficulties with S. 1620. He believes that dentistry should have a separate title in the bill and made proposals by which dentistry can participate in the National Health Program. He pointed out that dentistry and dental services are not mentioned in any line or title of the bill. It was his belief that the bill might lead to a system of compulsory health insurance.

ABSTRACT OF STATEMENT BY DRS. MORREY AND WALLS

Dr. Morrey, Director of Public Relations, estimated that it would take $60,000,000 a year to take care of the dental aspects of service to indigent children, including an educational program plus operative care. It was impossible to estimate the cost for adults. Senator Murray stated to Dr. Walls that the Senate subcommittee would like to have from the dental profession the amendments or proposals necessary to cover dentistry in the health bill. Dr. Walls suggested that it would require until the first of August to develop these and asked if that would be too late. Senator Murray said "I do not think so. It is not going to be possible for us to have this bill enacted in this session, so that would be perfectly proper. Dr. Wall also stated that these hearings were the first time official Washington considered that dentistry played a big part in the health of the nation.

ABSTRACT OF STATEMENT BY DR. P. G. SMITH

Dr. Park G. Smith, president of the Ohio State Medical Association, explained its opposition to the National Health Bill, emphasizing many of the points emphasized by representatives of the American Medical Association. Senator Murray said "I am very much in accord with your views with reference to the bearing of the economic conditions on this subject of national health. I think your observations there are very wise, and I think that improvements in that field will go a long way toward remedying the health situation too."

ABSTRACT OF STATEMENT BY MR. J. G. CROWNHART

Mr. J. G. Crownhart, secretary of the State Medical Society of Wisconsin, discussed particularly that section of the bill on grants to states for medical care. He submitted to the committee his report on health insurance abroad. He said "The Wagner bill is so designed as virtually to insure the inauguration of state compulsory sickness insurance plans subject to the control and direction of the federal government."

ABSTRACT OF STATEMENT BY MR. JAMES E. SLOCUM

In the afternoon session first appeared James E. Slocum, research director for the National Chiropractic Association, who recommended that the committee always keep in mind the right of the citizen to choose his own doctor and method of healing and urged that the committee include doctors of chiropractic in the federal health program. In the discussion with the committee, he said that there were approximately thirty chiropractic colleges in the country, many of them standardized on the four year course, and that they graduate between 2,000 and 2,500 a year, and that there are between 15,000 and 16,000 practitioners. He said the difference between his profession and osteopathy was philosophical. He did not think that of recent years the medical profession opposed the theory of chiropractic so much. He said that chiropractors are now licensed in forty-three states and that there are approximately 40,000 drugless practitioners in America.

ABSTRACT OF STATEMENT BY MR. ABRAHAM EPSTEIN

Abraham Epstein of the American Association for Social Security said that he was no enthusiast of the bill, that from 40 to 50 per cent of people in the low income group do not get medical care. They want a self-respecting independent system whereby they can distribute their costs. He said that insurance is the proper method for doing this and that insurance fits most aptly in sickness. He suggested, therefore, compulsory health insurance. He objected to the bill because it tries to compromise with the American Medical Association and practically gives them everything, and yet they try in their general stupidity to come out and say that the one thing that they object to is the health insurance program. He also said that in a health insurance program you can have the least governmental interference. All that the government does is to collect. He endorsed everything in the bill except the administrative feature in the last provision. He did not think that they would accomplish anything, however, by passing the whole bill. He said he did not know what was in the bill even the day before it was introduced, and that he thought this was an attempt to compromise with the American Medical Association. Further he said "If they had asked me, and I am an old bird at that thing, I would have said right at the start that there is no chance for you ever to get Dr. Fishbein and his crowd to accept anything, no matter what statements they issue." He said the defect of the bill was the fact that it tried to avoid health insurance. He said "Senator Wagner has made several statements. Before the doctors he states that there is no health insurance here. I can tell you, you really could have a health insurance program under this bill. I don't think that these tactics will do any good. That is no way of fooling the American Medical Association; it cannot be done, and I do not think that there is any possible chance of converting them." Senator Wagner said that there was nothing in the bill to compel a health insurance program by any state. Mr. Epstein said that this was his objection to the bill. He then urged the passage of the Capper bill, which is a health bill now before the Committee on Finance.

ABSTRACT OF STATEMENT BY MR. W. F. MONTAVON

Next appeared Mr. William F. Montavon, director of the legal department of the National Catholic Welfare Conference. He found that the Wagner bill fails to provide for and indeed would make impossible in some cases any cooperation of governmental and nongovernmental agencies, that it would divide the elements now providing medical care into two rival groups, those serving under a state plan and those not so serving. Between these two groups there would be no place for the nongovernmental agency. He feels that it should be compulsory on the government to give preference to the private hospital, which is an American tradition. He said that the conference of the hospital agencies with the Interdepartmental Committee had not influenced in any way its report. He also left with the committee an analysis of the Social Security Law and S. 1620.

ABSTRACT OF STATEMENT BY MONSIGNOR JOHN O'GRADY

Next appeared Monsignor John O'Grady, secretary of the National Conference of Catholic Charities, who discussed particularly the interest of the private charity and the private hospital.

ABSTRACT OF STATEMENT BY REV. A. M. SCHWITALLA

Rev. A. M. Schwitalla, representing the Catholic Hospital Association, discussed the costs of hospitals and described the work of the Catholic Hospital Association, and the actions of the Joint Committee of the three national hospital associations. He said that "the National Health Act not only ignores the partnership which has existed traditionally between the public and private agencies but it places the public agencies into a position in which we believe they will sooner or later constitute an actual menace to the non-tax supported hospital." He said that "the act recommends a pattern of governmental dominance over health care tried in its implications only in those countries in which the American form of democracy is unknown. He felt that there was no way to amend S. 1620 satisfactorily but that there should be drafted a new bill. He filed with the committee a report of the three hospital associations relative to the bill.

ABSTRACT OF STATEMENT BY MR. BRYCE L. TWITTY

Mr. Bryce L. Twitty, president of the American Protestant Hospital Association, supported the same general point of view as did also Dr. Claude W. Munger, representing the American Hospital Association. He stated that the bill was not satisfactory in its present form, that it must be given more study and that there must be important amendments.

(To be continued)

OFFICIAL NOTES

RADIO BROADCASTS

The radio broadcasts by the American Medical Association and the National Broadcasting Company, under the title Your Health, continue as previously announced each Wednesday over the Blue network of the National Broadcasting Company at 1 p. m. eastern standard time (12 noon central standard time, 11 o'clock mountain time, 10 a. m. Pacific time).

Starting April 30, daylight saving time took effect in Chicago. The program is therefore being broadcast at the same hour Chicago daylight saving time, which means one hour earlier central standard time, two hours earlier mountain time and three hours earlier Pacific time. In communities where daylight saving time is in effect there is no change in the hour of the broadcast.

Owing to network conflicts the Chicago broadcast does not occur at 1 o'clock Wednesday but there is a rebroadcast from a recording over station WENR at 8 o'clock each Wednesday evening (8 o'clock Chicago daylight saving time, 7 o'clock central standard time). The program broadcast each Wednesday evening is identical with the network program of Wednesday afternoon.

The last program to be broadcast, together with its date and topic is as follows:

June 21. Better Babies.

This terminates the fourth series of dramatized programs, and the sixth consecutive season of broadcasting over the networks of the National Broadcasting Company. Announcements as to further radio programs will appear in THE JOURNAL in advance of the dates scheduled.

MEDICAL LEGISLATION

MEDICAL BILLS IN CONGRESS

Changes in Status.—S. 2353 and H. R. 6225 have been reported to the Senate and House respectively, proposing to authorize an appropriation to construct a medical school building at Carlisle Barracks, Pennsylvania. H. R. 6635 has passed the House, proposing to amend in several respects the Social Security Act. This bill proposes, among other things, (1) to freeze the old-age insurance tax at 1 per cent on the employee and on the employer for the three years 1940, 1941 and 1942; (2) that only the first $3,000 an employer pays an employee for a year is to be taxable under the unemployment compensation provisions; (3) to liberalize certain benefits; (4) to exclude from the provisions of the act service performed as a student nurse in the employ of a hospital or a nurses' training school by an individual who is enrolled and is regularly attending classes in a nurses' training school chartered or approved pursuant to state law and service performed as an intern in the employ of a hospital by an individual who has completed a four year course in a medical school chartered or approved pursuant to state law.

Bills Introduced.—S. 2543, introduced by Senator Neely, West Virginia, proposes to accord all the benefits now given to veterans of the World War to persons who served as members of boards to carry out the provisions of the selective draft act. S. 2547, introduced by Senator Murray, Montana, proposes to impose additional duties on the United States Public Health Service in connection with the investigation, treatment and control of tuberculosis. The bill provides federal subsidies to assist states, counties, cities, health districts and other political subdivisions of the states to establish, extend and improve measures for the prevention, treatment and control of tuberculosis, including the provision of facilities for sanatoriums and other care for persons with tuberculosis. The U. S. Public Health Service will be authorized to make studies, investigations and demonstrations to develop more effective measures of prevention, treatment and control of the disease. For the fiscal year ending June 30, 1940, the bill proposes to authorize not exceeding the sum of $7,750,000, for the fiscal year ending June 30, 1941, not exceeding the sum of $33,500,000, for the fiscal year ending June 30, 1942, not exceeding $37,000,000, and for each fiscal year thereafter, such sum as may be necessary, provided that subsequent to the fiscal year 1945 the federal appropriations authorized shall not exceed $17,500,000. H. J. Res. 316, introduced by Representative May, Kentucky, proposes (1) to establish a federal department of public health as an independent agency under the executive branch of the government to which will be transferred all public health activities and services financed wholly or in part by the federal government, with the exception of the Army, Navy and Veterans' Administration services; (2) that it shall be unlawful for any person to use any seal, stamp or certificate of another person denoting or implying superiority in purity, quality, usefulness or effectiveness of any drug, food, cosmetic, therapeutic lotion, therapeutic device or diagnostic and surgical assists, unless authorized by the rules and regulations of the United States Public Health Service; (3) to provide that disability on account of sickness shall be considered, under the Social Security Act, as unemployment after three days of such disability and until the termination of such disability; (4) that there shall be established in the District of Columbia a United States Medical and Surgical College to which graduates of accredited medical and surgical colleges shall be admitted for training for Army, Navy or public health work, on designation by senators and representatives in Congress. The college will be authorized, it is proposed, to provide medical, surgical and clinical facilities for the diagnosis and treatment of all types of illness and physical and mental disabilities, the facilities to be available for all patients whose income is not in excess of $600 per annum, if single, or $1,200 per annum if married and supporting dependents; (5) to create a joint congressional committee to make a thorough study of all public health problems and to recommend to Congress a system whereby individuals in the low-income groups may be able to purchase full coverage insurance to cover the costs of sickness "in lieu of federal and state grants-in-aid."

DISTRICT OF COLUMBIA

Changes in Status.—S. 1805 has been reported to the Senate, without amendment, proposing to establish a lien for moneys due hospitals for services rendered in cases caused by negligence or fault of others. H. R. 6509 has been reported to the House, proposing to provide for insanity proceedings in the District of Columbia.

FRENCH SICKNESS INSURANCE

The French system of sickness insurance is following the example of nearly all other systems by showing a constant and fairly rapid increase in expenditures. According to the *Monthly Labor Review* (**48**:312 [April] 1939) the increases in payments since 1930 are as follows:

Disbursements by Sickness Insurance in France, 1930 to 1936

Year	Disbursements (in Francs)
1930-1931	714,644,616
1932	875,873,375
1933	935,401,696
1934	998,126,448
1935*	1,097,925,128
1936*	1,011,279,135

* Provisional figures.

This increase is somewhat exaggerated by the depreciation in the franc, which is now quoted at 2.65 cents. Since January 1937 the contribution for all types of social insurance has amounted to 8 per cent of the wage, with a maximum of 100 francs a month.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

ARIZONA

State Medical Election.—Dr. Delamere F. Harbridge, Phoenix, was chosen president-elect of the Arizona State Medical Association at its recent annual session in Phoenix, and Dr. Charles S. Smith, Nogales, was installed as president. Other officers include Drs. Dan L. Mahoney, Tucson, vice president; Leslie R. Kober, Phoenix, secretary, and Clarence E. Yount, Prescott, treasurer. Dr. Harbridge was secretary of the association from 1917 until this year; in 1937 he was presented with a solid gold diamond studded badge emblem in appreciation of his having served twenty years in the position. He is also an honorary member of the Philadelphia County Medical Society.

ARKANSAS

State Medical Meeting and Election.—Dr. Henry T. Smith, McGehee, was chosen president-elect of the Arkansas Medical Society at its annual session in Hot Springs National Park May 8-10 and Dr. Albert S. Buchanan, Prescott, was installed as president. Other officers are Drs. John M. Proctor, Hot Springs National Park, Berry L. Moore, El Dorado, and Thomas J. Stewart, Wynne, vice presidents; Royal J. Calcote, Little Rock, treasurer, and William R. Brooksher, Fort Smith, secretary. The 1940 convention will be held in Fort Smith. The scientific program included the following out of state speakers:

Dr. Morris Fishbein, Chicago, Editor of THE JOURNAL, American Medicine and the National Health Program.
Dr. Arthur E. Hertzler, Halstead, Kan., Cardiotoxic Goiter.
Dr. Joseph Brennemann, Chicago, Appendicitis in Children.
Dr. Tinsley R. Harrison, Nashville, Value of Drugs in Treatment of Cardiac Disease.
Dr. Elmer D. Twyman, Kansas City, Mo., Some Experiences in the Treatment of Cancer.
Dr. William R. Cubbins, Chicago, Fractures of the Neck of the Femur.
Dr. Jefferson C. Pennington, Nashville, Tenn., Painful Nephroptosis and Its Treatment.
Dr. Louis T. Byars Jr., St. Louis, Repair of Open Wounds and Deformities Resulting from Burns.
Dr. Louis Rudolph, Chicago, The Management of the Prolonged First Stage of Labor.

A public meeting Monday was addressed, among others, by Dr. Hertzler on "The New Deal in Medicine" and Dr. Fishbein, "Fads and Quackery in Healing."

CALIFORNIA

Eleven Encephalitis Cases Following Measles.—In an epidemic of measles in San Francisco from September 1938 until about the first of May, there were eleven cases of postmeasles encephalitis. Six deaths occurred in a total of 10,236 cases of measles, five of which were recorded in the group presenting encephalitis. According to the *Bulletin of the San Francisco County Medical Society*, the first case of postmeasles encephalitis in the last twenty years was reported in 1936. In the 1938-1939 epidemic three cases were reported from private hospitals and eight cases from the San Francisco Hospital. The onset of the encephalitis was nearly always sudden, developing a few days after the onset of the measles rash. Convulsions were present in eight cases and a significant part of all the fatal cases; paralysis of the lower extremities was recorded in three cases.

DISTRICT OF COLUMBIA

Personal.—Dr. J. Winthrop Peabody has written that he has not resigned as general superintendent of the District tuberculosis hospitals to devote his entire time to private practice as reported in THE JOURNAL, May 27, page 2181. The item was based on a newspaper report.

FLORIDA

State Medical Meeting and Election.—Dr. John S. Turberville, Century, was chosen president-elect of the Florida Medical Association at its annual meeting in Daytona Beach May 1-3, and Dr. Leigh F. Robinson, Fort Lauderdale, was installed as president. Other officers include: Drs. James Ralston Wells, Daytona Beach, Thomas H. Bates, Lake City, and Joseph W. Taylor, Tampa, vice presidents, and Shaler A. Richardson, Jacksonville, secretary-treasurer. The 1940 session will be held in Tampa. The speakers on the scientific program included:

Dr. William C. Roberts, Panama City, Puerperal Infections versus the General Practitioner.
Dr. Ferdinand Richards, Jacksonville, Five Hundred Consecutive Operative Gynecological Cases.
Dr. Erasmus B. Hardee, Vero Beach, Treatment of Automobile Accidents.
Dr. James Frank Wilson, Jacksonville, Some Observations on the Treatment of Pellagra.
Dr. Alva T. Cobb Jr., Gainesville, Eugenic Sterilization.
Dr. Wilbur A. McPhaul, Jacksonville, Public Health Yesterday, Today and Tomorrow.
Dr. Nathaniel L. Spengler, Tampa, The Thyroid and Adrenal Glands: Factors in the Control of Fever, Heat Regulation and Climate.
Dr. John Webster Merritt, Jacksonville, Hyperthyroidism—Medical Phases.
Dr. William Duncan Owens, Miami, Hyperthyroidism—Surgical Aspects.
Dr. Sherman B. Forbes, Tampa, Atrophic Rhinitis and Otosclerosis.
Dr. Robert L. Elliston, Fort Lauderdale, Importance of Case Records Relative to the Cancer Problem.
Dr. William W. McKibben, Miami, Pediatrics Fifty Years Ago and Today.
Dr. Robert B. McIver, Jacksonville, Management of Injuries to the Ureter.
Drs. Arthur H. Weiland and Charles R. Burbacher, Coral Gables, Treatment of Hip Fractures by Internal Fixation.
Dr. Hugh West, DeLand, Acute Intestinal Obstruction: Diagnosis and Physiologic Treatment.
Dr. Lloyd J. Netto, West Palm Beach, Acute Appendicitis.
Dr. Ralph A. Gowdy, Miami Beach.

Other societies meeting at this time were the Florida Radiological Society, Florida Pediatric Society, Florida Railway Surgeons Association, Florida Internists Society and the Florida Society of Dermatology and Syphilology.

GEORGIA

Society News.—Among others, Dr. Madison Hines Roberts discussed intracranial hemorrhage in the newborn before the Fulton County Medical Society, Atlanta, May 4, and Dr. John Calvin Weaver, "A Simple Appliance for Continual Drainage of the Spinal Canal in Meningitis." Dr. William R. Crowe Jr., Atlanta, addressed the society May 18 on "Low Nodal Paroxysmal Tachycardia with Report of Case Treated with Monopotassium Phosphate" and Dr. Wadley R. Glenn, Atlanta, "Appendicitis: Factors Influencing Its Mortality and Morbidity in the Negro."

Changes in Health Officers.—Dr. Charles C. Hedges, senior medical officer, Federal Trade Commission, Washington, D. C., has been appointed health officer of Savannah and Chatham County. Dr. Glenn J. Bridges, Millen, health officer for Jenkins County for two years, has been appointed assistant city and county health officer; this position has been vacant since the death of Dr. Alfred Larson last year, who died the same day as did the health officer Dr. Victor H. Bassett. Dr. Thomas H. D. Griffitts, U. S. Public Health Service, has been acting health officer. Dr. Robert F. Young, Cartersville, has resigned as health officer of Bartow County to enter private practice in Hope, Ark., it is reported.

IDAHO

Annual Registration Due July 1.—All practitioners of medicine and surgery holding licenses to practice in Idaho are required by law to register annually on July 1 with the Department of Law Enforcement and at that time to pay a fee of $2. If a licentiate has not paid the annual registration fee by October 1 his license can be canceled but will be restored within five years thereafter on payment of the delinquent fees and a $10 penalty. If a license has been canceled for more than five years, it can be reinstated only on the payment of $25 and on the licentiate's passing an examination, the nature of which shall be determined by the Department of Law Enforcement.

ILLINOIS

Society News.—Dr. George B. Eusterman, Rochester, Minn., addressed the Rock Island County Medical Society in Rock Island May 9 on "Recent Important Advances in the Diagnosis and Treatment of Gastroduodenal Disease."——Dr. Michael H. Streicher, Chicago, addressed the St. Clair County Medical Society in Belleville June 1 on "Diseases of Colon and Rectum and Proctoscopic Examination."——At a meeting of the Bureau County Medical Society, Princeton, May 9, Dr. James H. Mitchell, Chicago, discussed "Diagnosis and Treatment of Common Dermatoses."

Chicago

Annual Meeting of Chicago Medical Society.—Dr. Rock Sleyster, Wauwatosa, Wis., President of the American Medical Association, will be the guest of honor at the annual dinner meeting of the Chicago Medical Society at the Palmer House June 21. Dr. Charles B. Reed will be toastmaster. Entertainment and a dance have been arranged.

Course on Glaucoma.—An intensive course on glaucoma will be presented at the Illinois Eye and Ear Infirmary for five days beginning September 11 under the direction of Dr. Harry S. Gradle. The course will be limited to ten physicians who are practicing ophthalmology alone or with otolaryngology. About forty members of the staff will give the instruction, which will consist of two hours of lectures each day with demonstrations and practical instruction the remainder of the day. The plan also includes luncheons with round table discussions. The details may be obtained from Dr. Samuel J. Meyer, secretary of the course, Illinois Eye and Ear Infirmary, 908 West Adams Street.

INDIANA

Committee to Conserve Vision.—The Indiana State Medical Association has appointed a committee on the conservation of vision. The resolution authorizing the creation of the committee outlines its duties as follows: (1) to encourage ocular hygiene, (2) to disseminate knowledge for the prevention of blindness and the conservation of vision, (3) to acquaint the public and particularly industries and schools concerning proper illumination and other protective measures for the eyes, and (4) to help create and advise sight conservation classes.

State Tuberculosis Meeting.—The twenty-eighth annual session of the Indiana Tuberculosis Association was held at the Hotel Lincoln, Indianapolis, April 18-19. The speakers were, among others, Drs. Henry C. Sweany, Chicago, on "The Tuberculosis Problem Viewed in the Light of Recent Pathologic Studies"; Paul A. Teschner, Chicago, "Telling the Public the Facts," and Mr. Holland Hudson, New York, "Current Commonplaces of Rehabilitation." Woodson S. Carlisle, South Bend attorney, was chosen president, succeeding Dr. Maurice R. Lohman, Fort Wayne.

KENTUCKY

Society News.—Drs. Charles Harold Avent and W. Likely Simpson, Memphis, Tenn., addressed the Fulton County Medical Society, Hickman, recently on "Ruptured Appendix" and "Foreign Bodies in the Trachea, Esophagus and Bronchi" respectively.——At a recent meeting of the Calloway County Medical Society, Murray, the speakers were Drs. Edison D. Fisher and Coleman J. McDevitt on Buerger's disease and diabetes, respectively.——Dr. Louis Wallace Frank, Louisville, addressed a public meeting sponsored by the Grant County Medical Society in Williamstown in April on cancer.——Dr. Delmas K. Kitchen, Detroit, addressed the Boyle County Medical Society, Danville, April 19 on "Clinical Endocrinology."——Dr. E. Murphy Howard, Harlan, addressed the Letcher County Medical Society, Whitesburg, April 25 on "Gonorrhea and Its Complications."——At a recent meeting of the Licking Valley Medical Society in Dry Ridge the speakers were Drs. William E. Gardner on dementia praecox; William J. Martin Jr., rectal diseases, and William Austin Bloch, influenza. All are of Louisville.

MAINE

State Medical Meeting.—The eighty-seventh annual session of the Maine Medical Association will be at Poland Spring House, Poland Spring, June 25-27, under the presidency of Dr. Willard H. Bunker, Calais. Out of state speakers will include:

Dr. Merrill J. King, Boston, External Diseases of the Eye.
Dr. Paul A. Chandler, Boston, Glaucoma.
Dr. Francis C. McDonald, Boston, Some Pediatric Problems of the Respiratory Tract.
Dr. James S. Greene, New York, Speech Defects.
Dr. Francis G. Blake, New Haven, Conn., The Chemotherapy of Pneumonia.
Dr. John J. Moorhead, New York, Treatment of Ordinary Injuries.
Dr. John T. Morrison, New York, Rural Community Hospitals.
Dr. Gordon M. Morrison, Boston (subject not announced).

Dr. Morris Fishbein, Chicago, Editor of THE JOURNAL, will speak at the banquet Tuesday evening on "American Medicine and the National Health Program." Fifty-year service medals will be presented at the banquet to Drs. Charles B. Sylvester, Portland; Gustav A. Pudor, Portland; Bernard A. Bailey, Wiscasset (posthumously), and Henry I. Durgin, South Eliot. The past presidents' and county secretaries' luncheon will be held the same day. The scientific program also includes a round table discussion on postoperative complications, a symposium on psychoanalysis and one on traumatic surgery, and a clinicopathologic conference with summations on each case by Dr. Reginald Fitz, Boston. There will be a conference of the Medico-Legal Society Tuesday morning.

MARYLAND

New Officer in Charge of Quarantine Station.—Dr. Calvin B. Spencer, passed assistant surgeon, U. S. Public Health Service, has been appointed officer in charge of the U. S. Quarantine Station for the port of Baltimore, located at Curtis Bay. He replaced Dr. Le Grand B. Byington, who was transferred to the plague laboratory of the service at San Francisco.

State Medical Election.—Dr. Edward P. Thomas, Frederick, was chosen president of the Medical and Chirurgical Faculty of Maryland at its annual meeting in April, to take office January 1, and Dr. Richard T. Shackelford, Baltimore, was chosen secretary. The latter will succeed Dr. Walter D. Wise, Baltimore, who has been secretary since 1931. The 1940 session will be in Baltimore April 23-24.

MICHIGAN

Personal.—The Wayne County Medical Society, Detroit, held a memorial session at its recent annual meeting in honor of the late Dr. George E. McKean, who served as president and as a trustee. A portrait of Dr. McKean, painted by Roy Gamble, was unveiled. Dr. Alexander W. Blain delivered the dedicatory address.——Dr. Paul W. Bloxsom, Grand Rapids, has been appointed one of Kent County's two coroners, succeeding the late Dr. Harmon C. Wolfe. Dr. Simeon LeRoy, Grand Rapids, is the other coroner.——Dr. William E. Shackleton has been appointed chief of the medical staff at Borgess Hospital, Kalamazoo.

Society News.—Mr. William J. Burns, executive secretary, state medical society, discussed "Legislative Accomplishments and Group Health Service" before the Calhoun County Medical Society, Battle Creek, June 6.——The Flint Business and Professional Women's Club was recently awarded a memorial trophy, presented each year to the Michigan organization promoting the best educational campaign during cancer control month. The award is made through the state unit of the American Society for the Control of Cancer.——Dr. John J. Corbett, Detroit, addressed the Jackson County Medical Society, Jackson, May 16, on "The Injection versus the Operative Treatment of Hemorrhoids."

MINNESOTA

Orthopedic Club Observes Fifteenth Anniversary.—The Minnesota-Dakota Orthopedic Club celebrated its fifteenth anniversary at the Gillette State Hospital for Crippled, St. Paul, May 5-6. The program consisted of an operative clinic and the presentation of cases. Originally called the Minnesota Orthopedic Club, the name was amended in 1934 to include physicians in North and South Dakota. Meetings are held alternately at Duluth, Rochester, St. Paul and Minneapolis.

MISSOURI

Physician Honored.—Dr. Harvey L. Cunningham was guest of honor at a dinner April 10 given by the Cape Girardeau County Medical Society in recognition of his completion of fifty years in the practice of medicine. Principal speakers were Drs. Frederick E. Woodruff, St. Louis, and George W. Walker, Cape Girardeau. Dr. Cunningham was presented with a metal desk set holding two pens, a clock and a gold plate bearing the inscription "To Dr. H. L. Cunningham with the compliments of the Cape Girardeau County Medical Society to commemorate fifty years of service to humanity in the practice of medicine."

NEW JERSEY

Society News.—Dr. Henry J. Tumen, Philadelphia, addressed the Cumberland County Medical Society in April on "Management of Duodenal Ulcer" and Dr. Arthur W. Bingham, East Orange, chairman of the commission on maternal welfare of the Medical Society of New Jersey, spoke on antepartum care as related to maternal mortality.——Dr. Charles A. Flood, New York, among others, addressed the Passaic County Medical Society, Paterson, recently on "Results of Medical Care in the Treatment of Peptic Ulcer."

NEW YORK

Lake Keuka Meeting.—The annual meeting of the Lake Keuka Medical and Surgical Association will be held June 22 at Keuka College, Lake Keuka. Among the speakers will be:

Dr. Martin S. Kleckner, Allentown, Pa., Facts and Fallacies Regarding Proctologic Diseases.
Dr. Stuart B. Blakely, Binghamton, The Psychology of Pregnancy.
Dr. Carlyle N. Haines, Sayre, Pa., Uses and Dangers of Sulfanilamide.
Dr. Louis Emmitt Brown Jr., Sayre, Pa., Uses and Dangers of Sulfapyridine.
Drs. Samuel F. Marshall and Richard B. Cattell, Boston, Surgical Management of Gastric Lesions.
Drs. Harry M. Murphy and Fraser D. Mooney, Buffalo, Gastroscopy and Its Diagnostic Value.

Jail Inmates Exposed to Smallpox.—Health officers are reported to be conducting a wide search for 196 persons released from the Onondaga County Penitentiary, Jamesville, since May 11, all of whom were exposed to a man with smallpox committed that day. The last known addresses of the 196 prisoners covered twenty-two states, it was said. One former prisoner located on the Onondaga Indian Reservation broke out with the disease and vaccination of the entire population of the reservation was undertaken. In addition to the prisoners released, 136 were transferred to other institutions. Eleven cases developed at the jail and other cases in the surrounding area among guards and other persons in direct contact with the institution.——Sixteen cases of smallpox have developed in four towns in Chautauqua County: Ripley, Sherman, Westfield and Mina, the state health department reported May 26. Schools in Ripley were closed and vaccination clinics were set up in the school houses. Up to May 25 3,000 persons had been vaccinated. It was reported that none of the persons who had contracted the disease had ever been vaccinated. This outbreak was traced to a truck driver who traveled between Syracuse and Cleveland. It was reported June 1 that a woman who had visited in Ripley contracted smallpox after she returned to her home in Pennsylvania.

New York City

Syphilis Infrequent Among Marriage Applicants.—An analysis of blood tests required of applicants for marriage licenses from July 1, 1938, when the law went into effect, through December 31, reveals that less than 1 per cent of those examined had syphilis, the New York City Department of Health reports. Premarital blood tests were made on 58,903 persons with positive results in 559, or 0.95. Of the total number 52,585 tests were made by health department laboratories. When the applicants were classified into whites and Negroes, the percentage of infection among the whites was 0.61 and among the Negroes it was 9.82. In 4,386 cases the color was not stated. Among the 559 positive tests 319 were in men and 240 in women.

Medical Information for Fair Visitors.—The five county medical societies of New York, in cooperation with the department of hospitals and the Greater New York Hospital Association, have arranged a special medical-hospital information service for World's Fair visitors from out of town who may need medical or hospital care and may not know where to turn for professional advice or attention. The plan is to establish an information office in each borough telephone office. A call to the office will be answered with a list of reputable physicians nearest the residence of the person calling. Cards bearing this information and the telephone numbers to be called will be distributed to out of town visitors or places where information about the fair is made available.

OHIO

Personal.—The Hempstead Academy of Medicine gave a surprise party recently for Dr. John W. Obrist, Portsmouth, in honor of his completion of fifty years of practice and presented him with a gold-headed cane.——Dr. and Mrs. Stanton Heck, Salem, celebrated their fortieth wedding anniversary and Dr. Heck's fiftieth anniversary in the practice of medicine with a reception at their home April 2. Dr. Heck graduated from the Medical College of Ohio, Cincinnati, in 1889.——The American Society of Clinical Pathologists at its annual meeting in St. Louis May 13 conferred its Burdick Award, a gold medal given annually for an outstanding contribution to medical science, on Dr. Harry Goldblatt, professor of experimental pathology at Western Reserve University School of Medicine, Cleveland. The award was in recognition of Dr. Goldblatt's research on hypertension and diseases of the kidneys.

OKLAHOMA

State Medical Meeting and Election.—Dr. Henry H. Turner, Oklahoma City, was chosen president-elect of the Oklahoma State Medical Association at the annual meeting in Oklahoma City, May 1-3; Dr. Walter A. Howard, Chelsea, was installed as president. The house of delegates voted to establish headquarters of the association in the Plaza Court Building, Oklahoma City, with Mr. R. H. Graham, executive secretary, in charge. An editorial board was elected for the association's journal, composed of Drs. Ned R. Smith, Tulsa; Lewis J. Moorman, Oklahoma City, and Leonard S. Willour, McAlester. Dr. Willour remains as secretary-treasurer-editor. Guest speakers who addressed general scientific meetings were:

Dr. Joseph F. Hamilton, Memphis, Tenn.: Peripheral Vascular Disease, Diagnosis and Treatment; Pseudomycotic Leg Ulcers.
Dr. William Wayne Babcock, Philadelphia: Surgery of the General Practitioner; Intestinal Malignancy.
Dr. Austin A. Hayden, Chicago: The Democracy of American Medicine.
Dr. Edward N. Smith, Oklahoma City: Toxemias of Late Pregnancy.

The Oklahoma Pediatric Society held its meeting Monday May 1 with Dr. Philip C. Jeans, Iowa City, as guest speaker on "Nutrition of the Infant and Child."

PENNSYLVANIA

Seminar at Danville.—A postgraduate seminar was presented at Geisinger Memorial Hospital, Danville, May 10 under the auspices of the Montour County Medical Society, Danville. Dr. Harold L. Foss and his associates conducted operative clinics, which were followed by a program of papers and demonstrations. Guest speakers were Drs. George Crile Jr., Cleveland, on "Diagnosis and Treatment of Jaundice"; Harold G. Wolff, New York, "Headache," and Frederick A. Coller, Ann Arbor, Mich., "Some Chemical Aspects of Preoperative and Postoperative Care."

Philadelphia

Schireson Indicted by Grand Jury.—The *Philadelphia Inquirer* reported June 9 that Henry J. Schireson, self styled plastic surgeon who formerly operated in Chicago, was indicted by a federal grand jury June 8. He was charged with concealing $130,000 in assets while filing a petition for voluntary bankruptcy in 1937. It was stated that he employed three aliases and that he swore his assets amounted to only $334. He was also indicted on a perjury charge arising out of the fact that he testified before the bankruptcy referee that he was not married and that he did not live in Merchantville, N. J., a suburb of Philadelphia, the *Inquirer* said. The indictment asserts that Schireson is married and that he lives in Merchantville, according to the newspaper story.

Society News.—The Philadelphia County Medical Society devoted its meeting May 24 to "Health of the School Child" and invited the public. Dr. Edward J. G. Beardsley made a talk on health; Mr. Charles Kurtzhaltz, director of the Philadelphia Health Council and Tuberculosis Committee, spoke on "How the Public Health Is Protected" and a sound film sponsored by the health council, "Body Defenses Against Disease," was shown. Dr. Myer Solis-Cohen, chairman of the committee on public relations, awarded prizes in a health poster contest. ——Dr. Oscar Mercier, Montreal, Canada, addressed the Philadelphia Urological Society May 22 on "Surgical Management of the Horseshoe Kidney" and showed a film on "Surgical Management of Rupture of the Urethra."——Drs. Samuel B. Hadden and Matthew T. Moore, among others, addressed the Philadelphia Neurological Society May 26 on "Neuralgic Headache and Facial Pain" and "Nicotinic Acid and Vitamin B_1 in the Treatment of Multiple Sclerosis" respectively. —— Dr. Bernard L. Wyatt, Tucson, Ariz., addressed the Philadelphia Rheumatism Society May 4 on "Chronic Arthritis: Differential Diagnosis, Special Treatment, Methods, Medical, Orthopedic, Physical Therapy."——Dr. William J. Kerr, San Francisco, delivered a Mary Scott Newbold Lecture of the Philadelphia College of Physicians May 3 on "New Approach to the Etiology and Treatment of Angina Pectoris."

TENNESSEE

Society News.—Dr. Henry M. Goodyear, Cincinnati, delivered the "Foundation Lecture" in otolaryngology at the recent annual meeting of the Tennessee Academy of Ophthalmology and Otolaryngology in Jackson on "Points of Practical Interest in the Diagnosis, Time of Operation and Treatment, in Acute and Chronic Ear Conditions, Including Mastoid, Lateral Sinus, Labyrinth, Meningeal and Petrous Infection." Dr. Virgil G. Casten, Boston, delivered the "Foundation Lecture" in ophthalmology on "Disturbances of Motility and of Visual Fields."

——Drs. Hollis E. Johnson, John C. Burch and Samuel C. Cowan addressed the Nashville Academy of Medicine and Davidson County Medical Society, Nashville, May 30, on "Management of Tuberculosis Complicating Pregnancy."—— At a meeting of the Dyer, Lake and Crockett Counties Medical Society May 3 the speakers, all of Memphis, were Drs. Dick C. McCool, on "Metrazol and Insulin Shock Treatment in Certain Mental Diseases"; Raphael Eustace Semmes and Francis Murphey, "When to Suspect a Brain Tumor."

WASHINGTON

Society News. — The King County Medical Society was addressed May 15 among others by Drs. James F. Blackman on "Bronchoscopic Aspiration of Mucus After Operation" and Oscar S. Proctor, "Extrapleural Pneumothorax and Oleothorax." A symposium on anesthesia was presented before the society April 17 by Drs. Arthur O. Tucker, George R. Marshall and William A. Millington. Dr. William G. Cameron, Tacoma, discussed legislative news. —— Dr. Joel W. Baker, Seattle, addressed the Spokane County Medical Society, Spokane, April 13 on "Surgical Considerations in Carcinoma of the Rectum and Rectosigmoid Junction."

WISCONSIN

Annual Conference of Secretaries.—The annual conference of the secretaries of county medical societies was held in Madison April 23. The speakers were Dr. Albert E. Rector, Appleton, president of the State Medical Society of Wisconsin, on the work of the society; Mr. George B. Larson, assistant secretary of the state society, on voluntary insurance plans now on trial in Wisconsin; Dr. James C. Sargent, Milwaukee, on hospital insurance; Dr. Dexter H. Witte, Milwaukee, on "Speaking Before the Public"; Mr. J. George Crownhart, secretary of the state society, legislation affecting the public health, and Dr. Rock Sleyster, Wauwatosa, now President of the American Medical Association.

Society News.—Dr. Frederick A. Figi, Rochester, Minn., addressed a joint meeting of the Winnebago County medical and dental societies in Oshkosh May 4 on "Malignant Diseases of the Mouth."——Dr. Harold E. Marsh, Madison, addressed the Columbia-Marquette-Adams County Medical Society, Portage, May 16 on "The Chemotherapy of Pneumonia."——Drs. Frederick H. Falls, Chicago, and Mabel G. Masten, Madison, addressed the Dane County Medical Society, Madison, May 9 on "Abortion" and "Polyneuritis of Pregnancy" respectively. ——At a meeting of the Brown-Kewaunee-Door County Medical Society, Green Bay, May 11 the guest speaker was Dr. Ovid O. Meyer, Madison, on "Treatment of Anemias."——Dr. Howard W. Haggard, New Haven, Conn., recently addressed the Douglas County Medical Society, Superior, on problems confronting the medical profession.

GENERAL

Special Society Elections.—Dr. Allen O. Whipple, New York, was elected president of the American Surgical Association at its recent annual meeting and Dr. Charles G. Mixter, Boston, was reelected secretary. The 1940 session will be in St. Louis.——Dr. John MacK. Brown, Los Angeles, was chosen president-elect of the American Laryngological, Rhinological and Otological Society at its annual meeting in May and Dr. Lee M. Hurd, New York, was inducted into the presidency. Dr. Carlton Stewart Nash, Rochester, N. Y., is the secretary. New York was tentatively selected as the place for the 1940 session.——At the annual meeting of the American Association of the History of Medicine in May Dr. Esmond R. Long, Philadelphia, was elected president to take office January 1. Dr. Henry E. Sigerist, Baltimore, is the secretary. The next annual session will be in Atlantic City, N. J., May 4-5.

Board of Obstetrics and Gynecology. — The American Board of Obstetrics and Gynecology announces that 228 of 259 candidates examined in St. Louis May 13-16 were certified, twenty-nine failed and two did not finish the examination. Because of increased expenses of administration the board found it necessary to increase the application and registration fees to $15 and $75 respectively. The board also announces that henceforth it will hold only one Group B, Part I examination a year. The next Part I examination will be held in various cities of the United States and Canada December 2. Applications for this examination must be filed not later than October 4 with the secretary. The general oral and pathological examinations for all candidates (groups A and B) will be conducted by the entire board in Atlantic City, N. J., June 7-9, 1940. Applications for admission to Group A, Part II examinations must be on file not later than March 15, 1940, in the secretary's office. For further information and application blanks address Dr. Paul Titus, secretary, 1015 Highland Building, Pittsburgh.

Pacific Coast Oto-Ophthalmological Society. — The twenty-seventh annual meeting of the Pacific Coast Oto-Ophthalmological Society will be held at the Fairmont Hotel, San Francisco, June 19-22, under the presidency of Dr. Frederick C. Cordes, San Francisco. Included among those presenting papers will be:

Drs. Cordes and Michael J. Hogan, Hemangiomatosis Retinae (Von Hippel's Disease): Report of a Case Treated by X-Ray.
Dr. Henry P. Wagener, Rochester, Minn., The Significance of Spasm in Retinal Arteriolar Disease and in Retinitis.
Dr. Otto M. Rott, Spokane, Wash., Method of Procedure in the Diagnosis of Otitic Intracranial Complications.
Dr. LeRoy A. Schall, Boston, Diagnosis and Treatment of Cancer of the Upper Respiratory Tract.
Dr. Howard E. Carruth, Portland, Ore., The Evisceration Operation—A Modification.
Dr. Irving M. Lupton, Portland, Clinical Observations in the Treatment of Acute Streptococci Otitis Media During Sulfanilamide Therapy.
Dr. Carroll L. Smith, Spokane, Lymphocytoma.
Dr. Carl D. F. Jensen, Seattle, Sympathetic Ophthalmia Complicating Cataract Extraction.

The program also includes four courses each in ophthalmology and otolaryngology.

Annual Health Awards to Cities. — Cleveland won the first award for cities of over 500,000 population in the annual city health contest for 1938 sponsored by the U. S. Chamber of Commerce in cooperation with the American Public Health Association. Winners in the other population groups were: 250,000 to 500,000, Providence, R. I.; 100,000 to 250,000, Grand Rapids, Mich.; 50,000 to 100,000, Newton, Mass.; 20,000 to 50,000, Plainfield, N. J., and less than 20,000, Englewood, N. J. Special awards were given to Baltimore; Brookline, Mass.; Detroit; Greenwich, Conn.; Hackensack, N. J.; Hartford, Conn.; Newark, N. J.; New Haven, Conn.; Pasadena, Calif.; Syracuse and Schenectady, N. Y. Each of these has previously won first awards and maintained its high standards in 1938. The rural health contest, which is financed by the W. K. Kellogg Foundation of Battle Creek, Mich., resulted as follows: Northeastern division, Cattaraugus County, N. Y.; Eastern division, Wicomico County, Md.; Southeastern division, Charleston County, S. C.; North Central division, Gallatin County, Mont.; Western division, Los Angeles County, Calif. In a special contest for tuberculosis control Hartford, Conn., and Newton, Mass., tied for first place and New Haven received an award of merit. In a similar contest for syphilis control Louisville, Ky., was the winner. Numerous awards of merit were also conferred. These awards are made not necessarily to the healthiest communities, it was pointed out, but for the effectiveness with which a community is meeting its health problems.

FOREIGN

Prize for Orthopedic Work. — Competition for the Umberto I. Prize was opened by the Rizzoli Orthopedic Institute of Bologna, Italy, January 1 and will close December 31. The prize is offered for the best "work or invention in orthopedics." Foreign as well as Italian scientists are invited to take part, according to an announcement. Application for information should be made to the president of the Rizzoli Institute, Bologna.

Courses in English in Paris.—The Faculty of Medicine of Paris, the Association for Improvement of Medical Relations and the American Medical Society of Paris have organized a series of courses to be given in English by medical authorities in various hospitals in Paris during May, June and July. A program of the courses may be obtained by writing to the Faculty of Medicine or the American Medical Society, care of the American Hospital of Paris, 63, Boulevard Victor-Hugo, Neuilly-sur-Seine.

Course in Malariology.—The Institute of Malariology in Rome is offering a course in malariology July 25 to September 20. Among the subjects to be covered are: hematology, protozoology, malaria parasites and microscopic diagnosis, pathology of malaria, clinical study of malaria, entomology, epidemiology of malaria and malaria prophylaxis. There will be practical work and laboratory demonstration, a survey of a malarious area, visits and residence in experimental stations and in a center of induced malaria. The course is open only to graduate physicians.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 27, 1939.

The Medical Profession Prepared for an Emergency

In previous letters it has been stated that a national register of physicians, comprising 95 per cent of their number, who will be available for the various branches of medical work in the event of a national emergency has been compiled by the Central Emergency Committee of the British Medical Association. This committee has now been reconstituted so as to make it representative of every branch of medical practice. Having prepared plans for the utilization of the profession, it will be the instrument for putting them into operation if the emergency should occur. In every division of the British Medical Association a local emergency committee has been established and is supplied with a copy of the local section of the national register. This committee will deal with all questions of medical personnel referred to it and will consult representatives of medical insurance committees, local authorities and voluntary hospitals. All requests for medical personnel from the military services or other government departments will be made to the Central Emergency Committee. The earmarking of practitioners for local duties, such as first aid posts, has been done by the local committees provisionally but had to be confirmed by the central committee. Consultants and specialists on the staffs of the London hospitals will be earmarked by a special committee of the Royal Colleges of Physicians and Surgeons. Pathologists will be dealt with by a subcommittee of the central emergency committee and the Medical Research Council. Physicians engaged predominantly in scientific work will be dealt with by a committee of the Royal Society in cooperation with the Central Emergency Committee.

Practitioners employed in time of war for whole time service in hospitals for the treatment of casualties will be paid $2,500 a year plus an allowance of $500 if board and quarters are not provided. An additional $2,500 may be paid to those in a supervisory capacity, whether as a medical superintendent of a hospital containing more than 500 beds or as a specialist controlling a department. Medical officers placed in positions of greater responsibility may receive remuneration up to $7,500 per annum. Services at first aid posts will be paid at the rate of $6 for a session of two hours or $12 for a longer period in any one day.

Surgery in Old Age

At the section of Surgery of the Royal Society of Medicine the president, Mr. C. H. S. Frankau, opened a discussion on surgery in old age. He pointed out that age was not merely a question of years but depended on degenerative processes associated with a diminished blood supply. The saying "A man is as old as his arteries" would be more accurate if it embraced the heart muscle. Injury to the soft parts might be disproportionately serious in the aged. Severe bruises must therefore be treated with caution; all pressure should be avoided and after from twenty-four to forty-eight hours an electric pad applied intermittently was often of value. But intense heat or cold (such as an icebag) might precipitate gangrene. Open wounds were more liable to infection, and healing was slow.

FRACTURES

It was not true to say that fractures in old persons united slowly or not at all, excepting intracapsular fracture of the neck of the femur. Most cases of Colles fracture gave good results if properly reduced and immobilized. In fractures of the long bones union was delayed but eventually complete. Fractured patella in the old was often considered unsuitable for treatment. But why condemn a man of 70 to the life of a cripple when removal of his patella would give him a useful limb? Another side of the picture was the unpredictable and unexplained phenomenon of disunion occurring some weeks after apparent healing of a fracture. In plaster treatment, pressure sores over bony points must be prevented by careful padding. Massage he regarded as not only valueless but dangerous to old persons, owing to liability to dermatitis, which might lead to subcutaneous venous thrombosis.

ACUTE ABDOMINAL CONDITIONS

Acute appendicitis in old age might resemble intestinal obstruction of slow onset with an "acute indigestion" pain commonly referred to the epigastrium, rarely to the right iliac fossa, with a persistent pyrexia. Physical signs were indefinite and the abdomen was distended. Sometimes there was visible peristalsis, and tenderness was general and greatest in the hypogastric and umbilical regions. At operation there was little peritoneal exudate, the intestine was sticky and red, and the appendix was rarely shut off by adhesions. These patients tolerated operation well. Another type presented "an acute attack of indigestion" followed by inability to take food, constipation or diarrhea and persistent slight pyrexia. Examination was indefinite at first but later revealed a hard tender mass in the right iliac fossa (appendical abscess). The abscess formation was remarkably slow. As in all cases of appendical abscess, operation should be delayed until localization was complete, and if the appendix was not found at once it should not be sought.

For short attacks of biliary colic surgery was not advisable, provided they were controlled by morphine and atropine and provided the gallbladder was not persistently distended. But if the attacks increased in frequency or severity or the gallbladder became distended, operation was inevitable. Unless it was "hanging by a pedicle," drainage was preferable to removal.

CARCINOMA

Carcinoma in the old usually progressed slowly with less tendency to disseminate. In the breast, removal of the gland was usually adequate; in the colon, exclusion by anastomosis was safer than excision; in cancerous pyloric stenosis, gastroenterostomy was the most that should be done. In the discussion Mr. V. Z. Cope maintained that carcinoma of the stomach should be removed whatever the age. He had operated successfully on a patient of 78.

The Frequency of Blood Donation

How often may a donor give blood without harm to himself? The report that the unanimous opinion of the staff of the General Infirmary of Leeds that "to give blood more than once in six months is harmful to the donor and not of maximum help to the patient" has led to a rejoinder from Dr. H. F. Brewer, medical officer to the British Red Cross Society London Blood Transfusion Service. In these days when volunteering for blood donation in a time of national emergency may be required on a large scale he feels that such a statement should not pass unchallenged, as it is contrary to experience in this and other countries. He states (*Brit. M. J.* **1:** 895 [April 29] 1939) that at present the London Blood Transfusion Service has 2,698 donors, of whom 630 are Rover Scouts (the youngest age of acceptance is 18 years). The established minimum safe interval is three months for males and four months for females, and the majority of donors give blood at these intervals. In an experience of eight years' medical supervision of the London Blood Transfusion Service, Dr. Brewer has found that such frequency in no way impairs health and indeed provides a margin of safety. Periodic hemoglobin

estimations of donors after the usual bleedings (from 400 to 750 cc.) shows a constant return to the normal figure within two months. Since the end of 1931, 1,076 members of the service who have given blood on ten or more occasions (a few up to fifty) at such intervals have been examined and these include fifty Rover Scouts. The examinations were carried out less than three months after the last bleeding. It was found that health was in no way impaired or any degree of anemia produced.

VIENNA

(From Our Regular Correspondent)

May 10, 1939.

Changes in the Medical Profession

The medical profession in Austria has been completely adapted to conditions in the "old empire," that is Germany, since the beginning of 1939. The changes have been significant both in private and in sick fund (krankenkasse) practice. With the elimination of about 2,000 Jewish physicians, a considerable number of men, mostly young physicians, have established themselves here, many from Germany, a fact to which the public has yet to get used. In the hospitals the overwhelming majority of the attending physicians are quite young; some have not even graduated but are in the last semesters of their studies. Many former heads were discharged. Some hospital departments were discontinued. The sick fund practice was also completely reorganized and adapted to the German model. The physicians are paid on the basis of a system of points complemented by a system of number of heads in the allotted territory for each physician. Payment is not high as a rule; however, in the case of extremely busy physicians the income is considerable. In districts inhabited by poor people, the practicing physician has a guaranteed minimum of 500 marks monthly; to this is added extra pay for every child of the physician. This system of increasing the family is commendable. A definite amount is granted for the first and second child, this is doubled for the third child and the amount increases again with the fourth and with the fifth child. At the same time the income tax becomes progressively smaller. The introduction of medical attention on Sundays is of special importance for the public. In every district about 10 per cent of the residing physicians, including specialists, are at the disposal of private and sick fund patients from Saturday evening to Monday morning. Their names and addresses can be had in every pharmacy and police station. The Pharmacopeia Germanica, which has been introduced into Austria, differs somewhat from the Pharmacopeia Austriaca. Especially important changes have been made for the prescription of cocaine and morphine and their derivatives. Every physician is obliged to keep a "cocaine" and a "morphine" book, in which each prescription containing cocaine or morphine has to be recorded. Narcotics prescribed for the physician's own use have to be recorded also. The prescribed quantity must not exceed 0.1 Gm. for cocaine and 0.2 Gm. for morphine per patient daily. Precise rules regulate prescriptions for addicts. These limitations do not apply to ethylmorphine hydrochloride, codeine, pantocain, eucaine and tutocain. Many drugs that are bought in Germany have become much cheaper on account of the abolition of customs. Pharmacists' taxes, on the other hand, have become higher. Drug prices have become lower on the whole, but physicians' fees have increased somewhat; in return physicians have to pay higher taxes than formerly, since control became more precise and the taxes were raised. As far as one can judge, the average income of Aryan physicians has increased somewhat. The position of still active Jewish physicians is becoming steadily worse because the number and paying ability of Jews is constantly decreasing and such physicians may treat Jewish patients only.

Physical Condition of Young Men in Austria

An article by the army medical officer Müller in the latest issue of the *Aerzteblatt für Oesterreich* gives information on the physical condition of men born in 1917 and 1918. Both volunteers and conscripts of this class reported for mustering. In Austria 4⅔ per cent of the conscripts were on the border of the admissible stature of 154 cm., in the old empire 3.9 per cent. The proportion of dental caries in need of immediate treatment was 33 per cent in Austria and 25 per cent in the old empire. Diseases of the digestive apparatus were far more frequent in the first group. These diseases may be responsible for the greater frequency of general bodily weakness at this age in Austria (7 per cent against 3 per cent). Consequences of finger injuries, such as crooked or stiff fingers, were likewise much more frequent, perhaps on account of poorer accident prevention. The frequency of goiter in Austria is known; 16.7 per cent of the men in this class had it against 7.54 per cent in the old empire, mostly in earlier stages to be sure, without disturbances of health. Examination of the young men on the basis of profession is of interest. Of all classes examined in Austria, 30.77 per cent were engaged in farming and forestry. Of these men 68 per cent were found in completely good health; men in these professions showed the lowest health percentage. Of the metal workers, 81.55 per cent of the men were in completely good health. The average for Austria was 75 per cent of all men mustered. These figures have but conditional value, as in 21 year old men we need not yet look for a reaction to professional activity, while in 32 year old men the reactions may have become quite marked.

The Constancy of Jewish Racial Characteristics

Dr. Walzel organized an exhibition on "the physical and psychic appearance of the Jews" in the department of anthropology of the Naturhistorisches Museum of Vienna. The exhibition serves scientific rather than propaganda purposes, although some parts of it will not pass the test of severe scientific criticism. On display are illustrations from the time of the Roman emperors, illustrations of monuments in the Near East and recent photographs from the police headquarters of Vienna, obtained in the course of official investigations and displayed with or without the consent of those concerned. On the basis of these illustrations one may conclude that the characteristics of the Jews have not changed essentially in the last 3,000 years. Among these characteristics are the "half-moon" profile, the "duck bill" profile, the "parrot" nose, the "6" shaped nose, the curved lower rim of the eyelid and the lip forms. The illustrations of the Antropologisches Institut show clearly defined characteristics passing from parents to children. Although examination of the blood has shown no fundamental difference between Germans and Jews, there is probably some difference in the incidence of certain constitutional diseases (diabetes, leukemia, obesity). Psychic diseases apparently permit certain differentiations also, yet there are no exclusively "Jewish diseases." Fluctuations in body size, furthermore, may have been for many years just as constant with Jews as with Germans and depend on the same factors: environment, food and ways of living. An interesting illustration shows finally that the German legislators' laws for the "protection of the German blood" do not differ in essence from the ancient laws of the Jews for the preservation of the Jewish people.

Death of Professor Finger

Prof. Ernest Finger, former university professor of dermatology and syphilology, died recently at the age of 83. He had been a pupil of Professor von Siegmund and was head of the Klinik für Syphilidologie und Dermatologie of Vienna in the Allgemeine Krankenhaus from 1904 to 1927. Professor

Finger acquired a prominent position through his clinical work, which he carried on in true humanitarian spirit, and his textbooks have been translated into various languages. He did great work in starting the fight against venereal diseases in Austria in 1907 and brought highly practical help through promoting therapy in his own treating stations in Vienna and the Austrian provinces. He brought help of special value through his "evening ambulances." His services came into full play in later years through a large scale organization for finding the sources of infection, as well as through general enlightenment of the population about the dangers of venereal diseases. As a pioneer he will live in the history of medicine.

Death of Professor Schaffer

Prof. Joseph Schaffer died recently in Innsbruck at the age of 79. He gained renown fifty years ago through his researches in microscopic anatomy and histology. He was appointed head of the Histologisches Institut of the University of Vienna and founded in Vienna, with Dr. Ebner von Rofenstein, the well known Histologische Schule, from which institution were appointed the best known representatives of this branch of science to the universities of Central Europe. His textbook on histology was translated into many languages. For the last twenty years Schaffer devoted himself to the study of cutaneous glands in mammals.

ITALY

(From Our Regular Correspondent)

May 15, 1939.

Annual Congress of Surgery

The Società italiana de Chirurgia recently held its annual reunion in Rome with Prof. Roberto Alessandri as president.

SUPPURATION AND GANGRENE OF LUNG

Prof. Raffaele Paolucci spoke on suppuration and gangrene of the lung. According to the speaker the old formula "ubi pus ibi evacua" stands for suppuration of the lung. However, frequently the abscess is spontaneously evacuated through the bronchi. Medical treatments, physical therapy and bronchoscopy aim to stimulate spontaneous evacuation of pulmonary abscess but the treatments have no specific value. Medical treatment is continued if there is a tendency to spontaneous cure of the abscess. The patient is observed by the physician in collaboration with the bronchoscopist, the roentgenologist and the surgeon. The mortality rate after operation in the acute forms is 15 per cent and in the chronic forms it is about 50 per cent. As a rule, simple acute abscesses are cortical; they can be controlled by simple pneumonectomy or pleurotomy and end in recovery of the patient in 100 per cent of the cases. Putrid acute abscesses are treated by tamponage followed by resection of the parietal lid of the abscess in almost all cases. The operation induces cure of the abscess in 85 per cent of the cases. In 3 per cent the abscess can be cured by tamponage without parenchymal operation. Lobectomy or progressive resection of the involved parenchymal zone is indicated in chronic suppuration. The mortality rate in these cases is about 50 per cent. Massive gangrene develops in about 4 per cent of the cases and does not yield to either medical or surgical treatment. Perforation of a putrid abscess into the pleura is extremely grave. Exploratory punctures, transthoracic parenchymal injections of drugs and artificial pneumothorax are contraindicated in suppuration of the lung. Artificial pneumothorax in the treatment of suppuration frequently causes putrid empyema.

OSTEOMYELITIS

Prof. Raffaele Brancati of the University of Parma spoke on chronic and acute osteomyelitis. Primary hematogenic osteomyelitis of adolescents usually develops at the metaphysis and in adolescents under the age of 14. It is caused by staphylococci of diminished virulence which are carried by histioblasts to the metaphysis. The most important forms of secondary osteomyelitis are those which involve the cranial bones, especially the petrous portion of the temporal bone and the maxillas. The diagnosis of petrositis is made from the appearance of Gradenigo's syndrome (suppurative otitis media and mastoiditis complicated by trigeminal temporoparietal pain and abductor paralysis). Pain in the head of a bone with functional incapacity, fever and leukocytosis in a youth under the age of 15 points to a diagnosis of acute osteomyelitis and it is advisable to place him immediately under the care of a surgeon. In general, the prognosis is better for infants than for older children. There is a tendency to operate in the early stages of the disease. The classic operation consists in opening the metaphysis and the medullary canal and in plugging.

The next congress will be at Naples and the topics will be (1) closed trauma of the abdomen, (2) surgery on the adrenals and (3) treatment of syndromes of the type of Banti's disease.

Meeting of Dermatologists

The Società Italiana di dermatologia e sifilografia met recently at Palermo with Professor Flarer as president.

Professor Tommasi of Palermo University spoke on a treatment for metasyphilis which he has used since 1931. The treatment consists of administration of antirabic vaccines either fresh or prepared with phenol. They are given to the patients by means of serial vaccinations, which are followed by intramuscular injections of acetarsone or by intravenous injections of arsphenamine in large doses. The treatment is harmless, nonpyretogenic and well tolerated. Dr. Cottini of Bonn carried on experiments with Tommasi's treatment and compared the results with those obtained from chemical pyretotherapy. He found that the administration of rabic vaccines induces diminution of the size of the syphiloma and of the number of spirochetes in experimental syphilis in rabbits, whereas chemical pyretotherapy has no action on experimental syphilis. The speaker has used the treatment for the last eight years in forty cases. He obtained immediate satisfactory results from the treatment in twenty-four cases of the group of forty. In twelve of the twenty-four cases, late results showed complete control of the disease. Antirabic vaccines give the same percentage of satisfactory results as the Wagner treatment.

Professors Malfa and Bosco reported the results of studies for ascertaining the influence of roentgen irradiations of the spleen on serologic tests for syphilis. The speakers observed that reactions which are negative or slightly positive before the application of roentgen irradiations on the spleen become positive or increase in positivity after them. According to the speakers, roentgen splenic irradiations can be used as a test for actual control of syphilis.

Professor Coppolino was able to identify aerophilic and aerophobic types of gonococcus from menstrual blood. Menstruation does not interfere with the vitality of the gonococcus. Because of the fact that gonorrhea in women is spontaneously reactivated during menstruation, cultures of menstrual blood, which is taken during the first few days of menstruation, are of diagnostic value in gonorrhea in apparently normal women. Such cultures are also of value in making a diagnosis on the recovery of the patients from the disease.

DERMATOLOGY

Professor Tommasi discussed the value of Reenstierna antiserum in the treatment of leprosy. The antiserum is prepared by inoculating sheep with glycerin bouillon cultures which contain acid fast and non-acid fast forms of mycrobacterium of leprosy. New and old cultures and the toxins and products of disintegration of the bacilli are used. The speaker gave the treatment recently to three lepers. The serum has a favorable effect on the ulcers but none on the further general evolution of the disease.

Professor Monacelli reported the results obtained from chemotherapy in a group of lepers at the leprosarium of Messina. Rubrophen (trimethyl-dioxy-oxotritan) Sailer's preparation, was the dye used. Satisfactory results have been previously reported from administration of the drug in the treatment of cutaneous and surgical tuberculosis. The drug has a favorable effect on leprosy. The symptoms and general condition of the patient improve. Toxic phenomena have been observed in some cases which show the advisability of carrying on further work, especially for determination of the proper dose.

Professor Flarer spoke on atabrine as local treatment of oriental sore. He obtained satisfactory results in fifty cases of a new series.

Professor Petronici reported satisfactory results from benzyl benzoate in the treatment of scabies. He resorted to the treatment in 648 cases and found that it has a rapid action on scabies without inducing unpleasant secondary reactions. The technic is simple and the method is economical.

BUCHAREST

(From Our Regular Correspondent)

April 17, 1939.

The State of Public Health in Rumania

While Rumania endeavors to keep pace with western civilization, little has been done as yet to teach the population how to guard its health. Although the urban population is well cared for, the rate of physicians to the population being, in general, 1:400, private practitioners are scarce in the rural districts because the peasants are unaccustomed to pay for medical service and the villages consequently offer little attraction for young practitioners. There are rural districts where the rate is one physician to 25,000 people. Official physicians having under their care such large areas cannot possibly give good medical service. While the birth rate is favorable in some regions, many of the babies die before the age of 1 year. In the last five years there has been an improvement in this respect because of the employment of well trained midwives and an increase in the number of qualified physicians.

The ministry of public health has provided for every county hospital (there are seventy-six in all) an epidemic section. In recent years arrangements have been made for the dispensaries in the villages to have special rooms for patients with epidemic diseases. It is planned to establish this year from 150 to 200 more dispensaries. The rural population will be instructed to appear at these dispensaries at the very beginning of their illness.

The population of Bessarabia, chiefly because of bad customs and habits, is not very cleanly. Men generally wear dark shirts, unchanged even for a month. It is no wonder that they become infested. In the last two years, forty delousing detachments have been at work. The late minister, M. Costinescu, sent 100 young physicians, and others came later, serving their half year of military service, to improve public health and chiefly to institute personal cleanliness. The minister also has sent 40,000 white shirts into this danger zone in order to accustom the people to changing shirts at least once a week. In every Bessarabian village baths and delousing stations were constructed. With these strict hygienic measures, there is some hope that satisfactory health conditions will prevail in Bessarabia.

Malaria is common, especially in Bessarabia, in East Moldavia, in the Danube valley and in Dobrogea. There are villages where eighty of 100 inhabitants suffer from this disease. According to official figures the number of cases of malaria in Rumania is not far from three quarters of a million. It is pitiful to see these debilitated, anemic persons and still more so to see the underdeveloped children. In 1936 an energetic campaign against malaria was conducted in the county of Constanta, between Constanta, a large port, and Mangalia. During 1937 an interministerial conference was held with university professors in the royal palace, conducted by King Carol II, who is a strong supporter of the movement. In the state budget, adequate sums have been allotted for this antimalaria work. The areas most in need are the villages about the city of Jassy, capital of the province of Moldavia. The draining and filling in of the valley of Barla was begun in April 1937 and now is nearing completion.

Another common disease in the villages of Muntenia and Moldavia is pellagra. During the World War the soldiers became accustomed to wholesome food, but little by little they returned to the old custom of selling their wheat and living exclusively on bread made of maize flour. Although there is a goat or cow to almost every house, few people drink milk. The people are instructed what food to eat through the school teachers, who have an opportunity to judge from the children whether the families feed themselves properly. During the summer vacation teachers take postgraduate courses in Bucharest, Cluj and Jassy, but some years are necessary for the 20,000 teachers of the country to receive this training.

Absolutely gratuitous antisyphilitic treatment has been introduced for the indigent. The results are satisfactory. In some districts several years ago the number of stillbirths was frightful, while at present such births occur infrequently.

In certain regions the population enjoys prosperity and nourishing foods. The government regards it a supreme duty to provide for the even distribution of foods in all parts of the country, and it pays great attention to the suppression of profiteering in foods. It is the vogue in Banat, one of the richest provinces of Rumania, to have only one child per family, and the mortality rate far exceeds the birth rate. There are villages where only a few young men can be recruited. This social problem is being solved by the joint action of physicians, the church and the school.

Regulation of Foreign Diplomas

Applications for permission to have validated a foreign diploma have to be sent to the ministry of public education with the following documents enclosed: original diploma, a notarized copy of this diploma, certificate of birth and birth place, a list of the schools and university attended and the official list of subjects studied. The minister of public education then submits the application to one of the Rumanian universities. The applicant has to pay 500 lei to the university. The ministry of public education publishes in the official gazette every month the list of those who have been validated in the preceding month.

Physician Appointed Governor General

King Carol II has appointed Dr. Coriolan Tataru, professor of dermatology at the university of Cluj and president of the National Medical Association, as governor general of Somes province.

Marriages

FRED L. NORTON, Belle Vernon, Pa., to Miss Helen Cooke Patterson of Connellsville, February 21.

WILLIAM K. OWEN to Mrs. Myra Williams, both of Birmingham, Ala., February 26, at Attalla.

ISAAC L. VAN ZANDT, Fort Worth, Texas, to Miss Ruth Boddeker of Galveston, February 11.

EDGAR BRYAN QUARLES, America, Ala., to Miss Ruth Brookins of Gloversville, N. Y., recently.

KARL G. KASTL, Granton, Wis., to Miss Priscilla Jane Richard of Appleton, February 16.

URBAN H. ZEHNPFENNIG, Merkel, Texas, to Miss Modyne Sheppard of Dallas, February 4.

J. WELLINGTON TRUITT, Gainesville, Texas, to Miss Ruth Bounds of Denison, February 4.

Robert George King, New York, to Miss Louise Perkins of New Canaan, Conn., March 25.

WELDON DOAK BLASSINGAME, Fort Worth, Texas, to Miss Helen Shyrock, February 4.

WILLIAM H. GIDNEY, West, Texas, to Miss Lois Cox of Dallas, January 26.

Deaths

Arthur Thoms Jones ⊕ Providence, R. I.; New York University Medical College, New York, 1896; member of the New England Obstetrical and Gynecological Society, New England Surgical Society and the American Urological Association; fellow of the American College of Surgeons; past president of the Rhode Island Medical Society; consulting surgeon to the Memorial Hospital, Pawtucket, St. Joseph's and Miriam hospitals, Providence, Woonsocket (R. I.) Hospital, Westerly (R. I.) Hospital and the South County Hospital, Wakefield; aged 64; died, March 19, of coronary occlusion, pulmonary embolus and arteriosclerotic heart disease.

Edward Morton Heacock ⊕ Chicago; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1909; fellow of the American College of Surgeons; member of the Radiological Society of North America; on the staffs of the Lutheran Memorial and Evangelical Deaconess hospitals; aged 62; died, March 12, of coronary sclerosis.

Walter Woodley Gosling, Red Bank, N. J.; Hahnemann Medical College and Hospital of Philadelphia, 1923; member of the Medical Society of New Jersey; fellow of the American College of Surgeons; on the staffs of the Fitkin Memorial Hospital, Neptune, and the Riverview Hospital; aged 41; died, March 4, of cerebral hemorrhage.

William H. Haughey ⊕ Battle Creek, Mich.; Detroit College of Medicine, 1888; past president and secretary of the Calhoun County Medical Society; was secretary of the council and councilor of the third district of the Michigan State Medical Society; aged 82; died, April 14 of a gallbladder condition following pneumonia.

Charles Edward Glynn ⊕ Davenport, Iowa; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1902; served during the World War; aged 66; on the staff of the Mercy Hospital, where he died, March 5, of arteriosclerosis and hypertension.

William W. Gill, Enid, Okla.; Northwestern Medical College, St. Joseph, Mo., 1893; Beaumont Hospital Medical College, St. Louis, 1901; member of the Oklahoma State Medical Association; county superintendent of health; aged 71; died, March 25, of coronary thrombosis.

Elizabeth Taylor Gray, Boston; Woman's Medical College of the New York Infirmary for Women and Children, New York, 1895; member of the Massachusetts Medical Society; formerly on the staff of the New England Hospital for Women and Children; aged 75; died, March 24.

Isaias Alexander Lehman, New York; University of Kharkov Faculty of Medicine, Russia, 1900; member of the Medical Society of the State of New York; on the staff of the Morrisania Hospital; aged 62; died, March 2, in the Bronx Hospital of carcinoma of the pancreas.

Treber Coleman Crawford, Portsmouth, Ohio; Starling Medical College, Columbus, 1897; member of the Ohio State Medical Association; formerly city physician; on the staff of the Portsmouth General Hospital; aged 70; died, March 7, of Parkinson's syndrome and myocarditis.

George Alexander Hartley ⊕ Battle Creek, Iowa; State University of Iowa College of Medicine, Iowa City, 1908; medical director and owner of the Odebolt (Iowa) Hospital and the New Battle Creek Hospital; aged 56; died, March 17, of an overdose of gas taken for pain.

Mary Elizabeth Lawrence, Waterford, Conn.; Boston University School of Medicine, 1893; aged 84; for many years on the staff of the Lawrence and Memorial Associated Hospitals, New London, where she died, March 6, of bronchopneumonia and arteriosclerosis.

Thomas D. Doan, Palmyra, Ill.; St. Louis University School of Medicine, 1905; member of the House of Delegates of the American Medical Association in 1918; member and formerly vice president of the Illinois State Medical Society; aged 70; died, March 1.

Edward Daniel Helfrich ⊕ Columbus, Ohio; Ohio Medical University, Columbus, 1902; member of the American Academy of Ophthalmology and Oto-Laryngology; formerly member of the state legislature; aged 63; died, March 21, of cerebral hemorrhage.

Thomas Jackson Ratliff ⊕ Colorado, Texas; St. Louis College of Physicians and Surgeons, 1897; past president and secretary of the Mitchell County Medical Society; city health officer; formerly county health officer; aged 70; died, February 18.

George Boston Glover, Monticello, Fla.; University of Pennsylvania Department of Medicine, Philadelphia, 1887; member of the Medical Association of Georgia; aged 77; died, March 27, in a hospital at Thomasville, Ga., of prostatic hypertrophy.

Raymon Herkles Henslee, Winters, Texas; Baylor University College of Medicine, Dallas, 1925; past president and secretary of the Runnels County Medical Society; served during the World War; aged 41; died, March 2, of pneumonia.

James Cook Ayer ⊕ New York; College of Physicians and Surgeons, Medical Department of Columbia College, New York, 1895; served during the World War; formerly on the staff of the Bellevue Hospital; aged 76; died, March 20.

John David Dean, Birmingham, Ala.; University of Texas School of Medicine, Galveston, 1928; member of the Medical Association of the State of Alabama; aged 34; died, March 25, in the South Highlands Infirmary, of acute polyneuritis.

Jacob Murray Hoskins, Marion, Ohio; Kentucky School of Medicine, Louisville, 1904; member of the Ohio State Medical Association; served during the World War; aged 56; died, March 1, of chronic bronchitis and cardiac hypertrophy.

James Owen Shannon, Franklin, Tenn.; Vanderbilt University School of Medicine, Nashville, 1877; past president and secretary of the Williamson County Medical Society; aged 82; died, February 4, of hypertensive cardiovascular disease.

George Washington Clendenan, Toronto, Ont., Canada; Victoria University Medical Department, Coburg, 1882; at one time mayor of West Toronto and medical officer of health; formerly associate coroner; aged 78; died, March 18.

Fred Raymond Lewis ⊕ Rochester, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1911; on the staff of the Rochester General Hospital; aged 57; died, March 8, of facial erysipelas and bronchopneumonia.

John Curtis Grandstaff, Preble, Ind.; Eclectic Medical Institute, Cincinnati, 1899; member of the Indiana State Medical Association; formerly county health officer and coroner; aged 66; died, March 31, of coronary thrombosis.

Ralph Harold Hertzler ⊕ Newton, Kan.; Northwestern University Medical School, Chicago, 1908; served during the World War; on the staff of the Bethel Deaconess Hospital; aged 52; died, March 30, of coronary sclerosis.

Harry Crittenden Harris, Glen Ridge, N. J.; University of Pennsylvania Department of Medicine, Philadelphia, 1883; formerly member of the school board and board of health; aged 78; died, March 2, of chronic myocarditis.

Jefferson D. Ratliff, Seymour, Texas; St. Louis College of Physicians and Surgeons, 1901; formerly city and county health officer; aged 77; died, February 24, in a hospital at Wichita Falls of complications of renal stones.

Emil Heller Henning, Baltimore; University of Maryland School of Medicine, Baltimore, 1908; formerly health officer in the public school division of the city health department; aged 58; died, March 4, of Hodgkin's disease.

John Clarence Kelly, Mitchell, Ind.; College of Physicians and Surgeons, Baltimore, 1882; aged 80; died, March 10, in the Homeopathic Hospital, Wilmington, Del., of carcinoma of the tonsil with abdominal metastasis.

George Franklin Edmunds, Bristol, Vt.; Baltimore Medical College, 1892; member of the Vermont State Medical Society; aged 76; died, March 18, in the Bradenton (Fla.) General Hospital of arteriosclerosis.

Frank E. Flowers, Mannington, W. Va.; College of Physicians and Surgeons, Baltimore, 1907; member of the West Virginia State Medical Association; mayor-elect; aged 55; died, March 31, of angina pectoris.

George Henry Lamley ⊕ Blissfield, Mich.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1901; aged 61; died, March 3, in Toledo, Ohio, of influenza, chronic nephritis and myocarditis.

Lyman George Haskell, Gainesville, Fla.; Boston University School of Medicine, 1897; formerly director of physical education at the University of Florida; aged 67; died, March 18, of a cerebral hemorrhage.

John Frey Binkley, West Palm Beach, Fla.; Vanderbilt University School of Medicine, Nashville, Tenn., 1917; member of the Florida Medical Association; served during the World War; aged 51; died, March 22.

Arthur Le Roy Garrison, Cleveland; Western Reserve University Medical Department, Cleveland, 1902; aged 62; died, March 19, in the Elyria (Ohio) Memorial Hospital of chronic nephritis and uremia.

Frank Washington Tarbell, Smyrna Mills, Maine; Columbia University College of Physicians and Surgeons, New York,

1908; past president of the Aroostook County Medical Society; aged 59; died, February 25.

Edward Stevens Lane, Bristol, Vt.; University of Vermont College of Medicine, Burlington, 1893; member of the Vermont State Medical Society; aged 72; died, March 30, of sclerosis of the coronary artery.

Edgar Dumont Wing, Galesburg, Ill.; University of Pennsylvania Department of Medicine, Philadelphia, 1873; health commissioner; aged 91; died, February 1, of uremia due to prostatic obstruction.

Clifton Dean Briggs, New Bedford, Mass.; Boston University School of Medicine, 1889; at one time physician to the late President Grover Cleveland; aged 72; died, March 21, of coronary thrombosis.

James Lafayette Jordan, Huntsville, Ala.; Birmingham Medical College, 1911; member of the Medical Association of the State of Alabama; aged 47; died, March 21, of hypertension and chronic nephritis.

Alvin Bartley Coxwell, Monroeville, Ala.; Louisville (Ky.) Medical College, 1907; member of the Medical Association of the State of Alabama; aged 55; died, March 23, of coronary thrombosis.

James Warren Rutherford, Chatham, Ont., Canada; University of Toronto Faculty of Medicine, 1899; aged 63; died, February 27, as the result of injuries received in an automobile accident in 1935.

Walter Gilbert Casey ✠ Talladega, Ala.; University of the South Medical Department, Sewanee, Tenn., 1906; on the staff of the Citizens' Hospital; aged 67; died, March 9, of coronary occlusion.

Levi Harry Leonard ✠ Manchester, Ohio; Cleveland College of Physicians and Surgeons, Medical Department of the University of Wooster, 1895; aged 72; died, March 24, of coronary occlusion.

Rolando Hamilton Henry, Princeton, Ill.; Miami Medical College, Cincinnati, 1884; member of the Illinois State Medical Society; also a pharmacist; aged 82; died, March 25, of coronary thrombosis.

William E. Chapman, Leland, Ill.; Hahnemann Medical College and Hospital, Chicago, 1904; served during the World War; member of the Illinois State Medical Society; aged 63; died, March 19.

John William Barson ✠ Joplin, Mo.; University of Louisville (Ky.) Medical Department, 1898; on the staffs of the Freeman and St. John's hospitals; aged 76; died, March 15, of heart disease.

Philander A. Wheeler, Lake Wales, Fla.; University of Vermont College of Medicine, Burlington, 1872; aged 91; died, February 18, in the Bartow General Hospital at Bartow of arteriosclerosis.

Joseph B. Trice, Van Buren, Ark. (licensed in Arkansas in 1905); member of the Arkansas Medical Society; formerly a medical missionary; aged 60; died in February at a hospital in Fort Smith.

Martin Hoke, Spring Grove, Pa.; Jefferson Medical College of Philadelphia, 1881; member of the Medical Society of the State of Pennsylvania; aged 79; died, February 21, of mitral stenosis.

Wilbert A. Staley ✠ Warrensburg, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1907; aged 67; died, February 9, of coronary sclerosis.

George Howard Pierce, Brooklyn; Yale University School of Medicine, New Haven, Conn., 1886; member of the Medical Society of the State of New York; aged 78; died, February 3, of pneumonia.

Theodore Kynette Gregg, Spartanburg, S. C.; Meharry Medical College, Nashville, Tenn., 1929; aged 37; died, March 28, in St. Agnes Hospital, Raleigh, N. C., of subacute bacterial endocarditis.

Edward Julius Lorenze, New York; University of the City of New York Medical Department, 1886; member of the Medical Society of the State of New York; aged 73; died, February 4.

Leonard Edward Fraser ✠ Iowa Falls, Iowa; Keokuk (Iowa) Medical College, College of Physicians and Surgeons, 1905; aged 58; died, February 2, in the Ellsworth Memorial Hospital.

Joseph H. Bertrand, De Forest, Wis.; College of Physicians and Surgeons of Chicago, 1886; member of the State Medical Society of Wisconsin; aged 76; died, March 8, of uremia.

Otto Frederick Jens, Chicago; Jenner Medical College, Chicago, 1901; Illinois Medical College, Chicago, 1902; aged 69; died, March 18, of coronary thrombosis and pernicious anemia.

Benjamin Franklin Jones, Danville, Ky.; Howard University College of Medicine, Washington, D. C., 1890; member of the city council; aged 80; died, March 22, of cerebral hemorrhage.

Harvey Erwin Blacksten, Excelsior, Mo.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1884; aged 77; died, March 6, in Versailles, of organic heart disease.

Carl Eugene Koenig ✠ Seattle; Jefferson Medical College of Philadelphia, 1908; member of the Radiological Society of North America; served during the World War; aged 57; died, March 17.

William Halbert McCracken, Alligator, Miss.; University of Tennessee Medical Department, Nashville, 1888; aged 72; died in February at the Baptist Memorial Hospital, Memphis, Tenn.

George William Lawton, Maywood, Ill.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1902; aged 67; died, March 3, in Natchez, Miss., of heart disease.

Jeremiah Thomas Dwyer ✠ Oswego, N. Y.; Long Island College Hospital, Brooklyn, 1891; on the staff of the Oswego Hospital; aged 68; died, February 27, of coronary artery disease.

Orra M. Flack, Boswell, Ind.; Medical College of Ohio, Cincinnati, 1893; member of the Indiana State Medical Association; aged 72; died, March 11, of an injury received in a fall.

Arthur Robert Lindsay ✠ Lawrenceville, Ill.; Northwestern University Medical School, Chicago, 1909; aged 53; died, March 15, in a hospital at Vincennes, Ind., of acute cholecystitis.

Charles E. Grayston, Huntington, Ind.; Medical College of Ohio, Cincinnati, 1881; Fort Wayne (Ind.) College of Medicine, 1885; aged 81; died, March 27, of cerebral hemorrhage.

Lawrence Joseph Morton, Brooklyn; Long Island College Hospital, Brooklyn, 1884; for many years on the staff of St. Mary's Hospital; aged 80; died, February 26, of arteriosclerosis.

Harry Theophilus Randle, Aurora, Colo.; Beaumont Hospital Medical College, St. Louis, 1902; aged 66; died, February 17, in Denver of chronic asthma and chronic emphysema.

Emmet Michael Brown ✠ Beattyville, Ky.; Rush Medical College, Chicago, 1930; county health officer; aged 43; was found dead, March 16, in a hotel at Louisville of myocarditis.

William Posey Blalock, New York; Columbia University College of Physicians and Surgeons, New York, 1937; intern at St. Luke's Hospital; aged 31; died, March 10, of pneumonia.

Marcia Gilmore, Pasadena, Calif.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1884; aged 79; died, February 13, of chronic bronchitis and pneumonia.

Jiles Wade Horn, Grubbs, Ark.; Kansas City (Mo.) College of Medicine and Surgery, 1923; served during the World War; aged 50; was found dead, March 20, of heart disease.

Walter Hugh Brent ✠ Hammond, La.; Medical Department of Tulane University of Louisiana, New Orleans, 1905; aged 60; died, March 18, of heart disease and hypertension.

Cecil Dabney, Baltimore; University of Virginia Department of Medicine, Charlottesville, 1910; at one time a medical missionary; aged 55; died, March 7, of coronary occlusion.

Thomas Wright Collins, Muldrow, Okla.; Medical Department of Tulane University of Louisiana, New Orleans, 1904; aged 70; died, March 13, in a hospital at Fort Smith, Ark.

Lewis Cass Skinner, Knoxville, Tenn.; North Carolina Medical College, Davidson, 1902; aged 72; died, February 8, in the Knoxville General Hospital of chronic myocarditis.

Anna M. Stiles Graves, Newark, N. J.; New York Medical College and Hospital for Women, New York, 1873; aged 86; died, February 20, of a fractured femur received in a fall.

Charles Goldman, Brooklyn; Columbia University College of Physicians and Surgeons, New York, 1901; aged 61; died, January 31, in the Emergency Hospital, Annapolis, Md.

Charles Watts Alexander, Oklahoma City, Okla.; Memphis (Tenn.) Hospital Medical College, 1890; aged 72; died, March 8, of coronary thrombosis and angina pectoris.

Walter B. Braden, Seattle; University of Oregon Medical School, Portland, 1902; aged 66; died, March 7, of coronary thrombosis and cholecystitis with one large gallstone.

W. C. Currey, Flemington, W. Va.; University of Maryland School of Medicine, Baltimore, 1881; aged 85; died, March 25, of chronic myocarditis and arteriosclerosis.

Malcolm Douglas, Santa Barbara, Calif.; Albany (N. Y.) Medical College, 1904; served during the World War; aged 62; died, February 12, of carcinoma of the pancreas.

Robert S. Humphrey, Cherryville, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1874; aged 85; died, February 20, of uremia and chronic nephritis.

Samuel C. Browne, Scio, Ore.; Eclectic Medical Institute, Cincinnati, 1890; aged 83; died, February 28, in the Albany (Ore.) General Hospital of cerebral hemorrhage.

Frederick Russell Tower ✠ Arlington, Mass.; Harvard University Medical School, Boston, 1892; aged 77; died, February 25, in the Ring Sanatorium and Hospital.

Edward Taylor Julian, Harlan, Ind.; Kentucky School of Medicine, Louisville, 1891; aged 73; died, February 25, in St. Joseph's Hospital, Fort Wayne, of uremia.

Herman Bick ✠ New York; University and Bellevue Hospital Medical College, New York, 1915; on the staff of the Fordham Hospital; aged 46; died, January 24.

James Franklin Frye, Whitehouse, Ohio; Western Reserve University School of Medicine, Cleveland, 1929; aged 38; died, March 2, of carcinoma of the stomach and liver.

Carl Eugene Edwards, Bradley, Ohio; Ohio State University College of Medicine, Columbus, 1914; served during the World War; aged 49; died, February 18.

James Tilford Cooley, Waverly, Tenn.; Vanderbilt University School of Medicine, Nashville, 1889; aged 81; died, March 13, of carcinoma of the prostate gland.

Edwin Hungerford, Denver; Eclectic Medical College of the City of New York, 1874; aged 90; died, March 29, of a fractured hip received in a fall and senility.

Alva Melville De Vilbiss, St. Paul, Kan.; College of Physicians and Surgeons, Keokuk, Iowa, 1898; aged 65; died, March 27, of chronic nephritis and uremia.

William Marion Davis, Worthington, Ind.; Marion-Sims College of Medicine, St. Louis, 1899; aged 67; died, March 18, of cerebral hemorrhage and arteriosclerosis.

Samuel Morison McConnell, Rochester, Pa.; University of the City of New York Medical Department, 1879; aged 94; died, February 26, of coronary occlusion.

John Warth English, McDowell, W. Va.; Washington University School of Medicine, Baltimore, 1897; aged 65; died, March 29, in a hospital at Huntington.

Julia B. Day Godfrey, Chicago; Hahnemann Medical College and Hospital, Chicago, 1891; aged 90; died, March 1, of carcinoma of the uterus and vagina.

Finley C. Spates, St. Paul; Hahnemann Medical College and Hospital, Chicago, 1883; aged 83; died, February 26, of hemiplegia and valvular heart disease.

Thomas Jennings Stem, Clovis, N. M.; University of Nashville (Tenn.) Medical Department, 1885; aged 81; died, February 19, of Raynaud's disease.

Thomas W. Burton, Springfield, Ohio; Eclectic College of Physicians and Surgeons, Indianapolis, 1892; aged 78; died, March 23, of interstitial nephritis.

George H. Kriz, Milwaukee; Baltimore University School of Medicine, 1898; aged 65; died, March 6, in the Columbia Hospital of cerebral hemorrhage.

Axel Fritz Grove, Fairfield, Iowa; Keokuk Medical College, College of Physicians and Surgeons, 1903; aged 73; died, March 30, of bronchopneumonia.

Joseph J. Kuczkowski, Chicago; Loyola University School of Medicine, Chicago, 1926; aged 42; died, February 23, in Vienna, Germany, of myocarditis.

Frank Warnock Brand, Urbana, Ohio; Homeopathic Hospital College, Cleveland, 1889; aged 72; was found dead in bed, March 29, of heart disease.

Eliza Lawton Whiteley, Lemongrove, Calif.; Hahnemann Medical College and Hospital, Chicago, 1886; aged 85; died, February 19, of arteriosclerosis.

Arche E. Pardue, Hamlin, Texas; Louisville (Ky.) Medical College, 1898; aged 67; died, February 26, of arteriosclerotic heart disease and hypertension.

James Francis Freeman, Evansville, Ind.; University of Birmingham Faculty of Medicine, England, 1875; aged 83; died, March 9, of pneumonia.

Franklin Burton Ladd, Fort Wayne, Ind.; College of Physicians and Surgeons, Keokuk, Iowa, 1888; aged 73; died, March 14, of angina pectoris.

Lottie Ambler Cort, Brooklyn; New York Medical College and Hospital for Women, New York, 1883; aged 79, died, February 14, of hypertension.

Stephen A. D. Miller, Seattle; Starling Medical College, Columbus, 1886; aged 75; died, February 13, of hypostatic pneumonia and Parkinson's disease.

Mathew Samuel Holt, Weston, W. Va.; Jefferson Medical College of Philadelphia, 1877; formerly mayor; aged 88; died, March 31, of pneumonia.

Creed Turner Cannaday, Cotter, Ark.; Memphis (Tenn.) Hospital Medical College, 1898; aged 86; died, February 26, of cerebral hemorrhage.

Henry Barridge Morton, Wichita, Kan.; Marion-Sims College of Medicine, St. Louis, 1895; aged 67; died, February 12, in a local hospital.

William Oliver Brickell, Friendsville, Tenn.; Tennessee Medical College, Knoxville, 1895; aged 70; died, March 27, of coronary occlusion.

Henry Zachariah Ewing, Hartford, Kan.; Kansas City (Mo.) Medical College, 1904; aged 69; died, March 11, of cerebral hemorrhage.

Charles Henry Oakwood, Los Angeles; Medical College of Indiana, Indianapolis, 1883; aged 83; died, February 20, of chronic myocarditis.

Arthur Wegeforth, San Diego, Calif.; Baltimore Medical College, 1890; aged 68; died, February 9, of cardiac decompensation and hepatitis.

William Franklin Howerter, Sciota, Pa.; Medico-Chirurgical College of Philadelphia, 1903; aged 63; died, February 25, of heart disease.

Henry MacVicker Smith, Santa Ana, Calif.; University of Buffalo School of Medicine, 1898; aged 69; died, February 19, of pneumonia.

Henry Blackburn Johnstone, Fenelon Falls, Ont., Canada; University of Toronto Faculty of Medicine, 1907; aged 58; died, February 22.

Francis Coburn Chapin, Cambridge, Mass.; Boston University School of Medicine, 1888; aged 76; died, March 22, of chronic nephritis.

Holdridge L. Henry, Capon Bridge, W. Va.; Baltimore University School of Medicine, 1887; aged 74; died, February 19, of pneumonia.

Eugene Carter Hamley, Glendale, Calif.; Rush Medical College, Chicago, 1902; aged 59; died, February 24, of coronary disease.

G. Walter Barr, Keokuk, Iowa; Jefferson Medical College of Philadelphia, 1884; aged 79; died, March 29, in Spartanburg, S. C.

Joseph Newton Chandler, Weatherford, Texas; Louisville (Ky.) Medical College, 1886; aged 75; died, March 1, of heart disease.

J. Ottis Hart, Benton, Ill.; St. Louis College of Physicians and Surgeons, 1902; aged 60; died, February 25, of myasthenia gravis.

John E. Morton, Spring Valley, Wis.; Milwaukee Medical College, 1897; aged 82; died, February 2, of cerebral hemorrhage.

Clifford B. Colwell ✠ Providence, R. I.; Baltimore Medical College, 1905; aged 57; died, March 9, of cardiorenal vascular disease.

James M. Hindman, Advance, Mo.; St. Louis College of Physicians and Surgeons, 1902; aged 71; died, March 18, of senility.

John James Van Male, Challenge, Calif.; California Medical College, Oakland, 1887; aged 80; died, February 16, of senility.

John H. Judkins ✠ Northfield, Vt.; Baltimore Medical College, 1893; aged 72; died, March 13, of coronary thrombosis.

Alfred G. Ward, Mobile, Ala.; Medical College of Alabama, Mobile, 1894; aged 66; died, February 27, of coronary occlusion.

Thomas McCall Anderson, New York; Baltimore Medical College, 1908; aged 56; died, March 24, of coronary thrombosis.

Sara Eleanore Schwerer, Crafton, Pa.; University of Pittsburgh School of Medicine, 1931; aged 40; died, February 2.

William Grant, Wolfville, N. S., Canada; Halifax Medical College, Halifax, N. S., 1892; aged 78; died, February 5.

H. Frank Clark, Rarden, Ohio (licensed in Ohio in 1896); aged 79; died, March 30, of myocarditis and nephritis.

Henry M. Green, Knoxville, Tenn.; Knoxville Medical College, 1901; aged 59; died, March 19, of pneumonia.

Correspondence

TREATMENT OF HERPES ZOSTER

To the Editor:—In the March 1931 issue of the *Archives of Dermatology and Syphilology* Dr. E. Wood Ruggles of this state suggested the intravenous injection of sodium iodide as a specific for herpes zoster. In the summer of 1935 I had a succession of twelve or more cases of zoster in a very short time and, recollecting the suggestion of Dr. Ruggles, used the sodium iodide in each case with really miraculous results.

Dr. Ruggles recommended giving 2 Gm. intravenously on the first, second, fourth and seventh days.

The success of this treatment has been so universally satisfactory in my own practice, as well as among the patients of professional brothers whose attention has been called to its efficiency, that I am taking the liberty of urging its exhibition by others who are unfamiliar with its virtue. I note in the latest editions of Sutton and Andrews that this remedy is mentioned but the dosage is not given. In several of my cases in young or delicate women the dose was cut in half. I have also made it a practice of giving the dose selected every other day, and never more than four doses have been found necessary.

NATHAN THOMAS BEERS, M.D., Brooklyn.

SULFANILAMIDE IN EDEMA FLUIDS

To the Editor:—I have not noticed any reports of sulfanilamide concentration in human edema fluid of noninflammatory origin. A patient with intractable pitting edema of the lower extremities due to the nephrotic stage of chronic glomerulonephritis was treated by the insertion of Southey tubes into both legs. Sulfanilamide was given prophylactically to minimize the frequently resultant infection which has brought this often valuable procedure into disrepute. An initial dose of 4 Gm. followed by 1 Gm. every four hours was given, and twenty hours later samples of blood and edema fluid were taken simultaneously. The concentration of sulfanilamide in the two was the same, 4.2 mg. per hundred cubic centimeters.

The diffusibility of the drug into edema fluid is thus even more marked than into the other body transudates. Incidentally, satisfactory drainage was obtained in this case without any inflammatory reaction. It is suggested that taking advantage of the penetration of the drug into edema fluid may render the use of Southey tubes more applicable and less dangerous.

IRVING A. BECK, M.D., New York.

Mount Sinai Hospital.

DETERMINATION OF PROTHROMBIN

To the Editor:—With the rapid development of the subject of vitamin K in the treatment of hemorrhage, a certain amount of confusion can easily occur. Fundamentally all the work on this subject rests on the quantitative determination of prothrombin. Four years ago I described a method for this determination (*J. Biol. Chem.* **109**: lxxiii [May] 1935) and showed that the prothrombin was normal in amount in hemophilia but reduced in a certain number of jaundiced patients. This method subsequently proved itself to be a sensitive test in all known hemorrhagic diseases characterized by a diminution of prothrombin. Because of its simplicity the test has been widely used clinically and, judging from the reports in the literature, has been found quite satisfactory. In a recent paper Drs. Scanlon, Brinkhous, Warner, Smith and Flynn (THE JOURNAL May 13, 1939, p. 1898) call attention to a new bedside test for determining prothrombin which consists in adding 0.9 cc. of blood to 0.1 cc. of thromboplastin. Unfortunately, this test is not new, for I, with Drs. Stanley-Brown and Bancroft (*Am. J. M. Sc.* **190**:510 [Oct.] 1935) used a test almost exactly like theirs (differing only in adding 0.1 cc. of thromboplastin to 1 cc. of blood) for demonstrating a normal prothrombin concentration in hemophilic blood. We did not feel justified at that time in recommending the test as a clinical method. The mechanical difficulties of carrying out a bedside test are well known, especially if it is of a quantitative nature requiring accurate timing with a stop-watch. It seems far preferable to require the little additional work entailed in my method and gain thereby the accuracy which is well justified and demanded, in view of the importance of reliable quantitative data concerning the prothrombin level in jaundiced subjects, newborn babies and other patients potentially in danger of hemorrhage.

ARMAND J. QUICK, M.D., Milwaukee.

Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

TEST FOR ALCOHOL IN URINE

To the Editor:—How are tests to determine the alcoholic content of urine made? What is the technic and interpretation as applied to drunken drivers?

M.D., Wisconsin.

ANSWER.—A simple test for alcohol in body fluids is based on the fact that alcohol can be distilled from an acid mixture and that the color obtained by mixing measured amounts of the distillate with standard potassium dichromate produces changes in color from orange to blue. By preparing test tubes containing known amounts of alcohol and potassium dichromate, permanent color standards can be obtained, which may be used for comparison when performing tests on samples of unknown alcoholic content. The standards may be purchased from the LaMotte Chemical Company, Baltimore, or prepared from the following directions:

Strong Permanent Standards

Color Standards Corresponding to per Cent Alcohol by Weight	Prepared by Using	With Water, Cc.
0.0	.....	1.00
0.05	0.50 cc. of 0.10 per cent alcohol by weight	0.50
0.10	1.00 cc. of 0.10 per cent alcohol by weight	0.0
0.12	0.60 cc. of 0.20 per cent alcohol by weight	0.40
0.14	0.70 cc. of 0.20 per cent alcohol by weight	0.30
0.16	0.80 cc. of 0.20 per cent alcohol by weight	0.20
0.18	0.90 cc. of 0.20 per cent alcohol by weight	0.10
0.20	1.00 cc. of 0.20 per cent alcohol by weight	
0.22	0.73 cc. of 0.30 per cent alcohol by weight	0.27

To each tube add 3 cc. of fifteenth normal potassium dichromate (0.33 per cent in 50 per cent sulfuric acid). Place tubes in boiling water four minutes and seal.

Weak Permanent Standards

Color Standards Corresponding to per Cent Alcohol by Weight	Prepared by Using	With Water, Cc.
0.0	.....	2.0
0.005	1.0 cc. of 0.01 per cent alcohol by weight	1.0
0.010	2.0 cc. of 0.01 per cent alcohol by weight	0.0
0.013	0.52 cc. of 0.05 per cent alcohol by weight	1.48
0.016	0.64 cc. of 0.05 per cent alcohol by weight	1.36
0.019	0.76 cc. of 0.05 per cent alcohol by weight	1.24
0.022	0.88 cc. of 0.05 per cent alcohol by weight	1.12
0.025	1.00 cc. of 0.05 per cent alcohol by weight	1.00
0.028	1.12 cc. of 0.05 per cent alcohol by weight	0.88
0.031	1.24 cc. of 0.05 per cent alcohol by weight	0.76
0.034	1.36 cc. of 0.05 per cent alcohol by weight	0.64
0.037	1.48 cc. of 0.05 per cent alcohol by weight	0.52

Add 1 cc. of potassium dichromate reagent to each tube. Place tubes in boiling water bath twelve minutes.

Technic of Test: Distil a mixture of 10 cc. of urine with about 10 cc. of half saturated picric acid containing about 10 per cent tartaric acid, collecting the first 10 cc. of the distillate and mix. In separate tubes similar to those used for the standards, place 1 cc. in one and smaller measured

amounts in the others, making the volume up to 1 cc. in each case. Add 3 cc. of the potassium dichromate reagent to each tube and place in boiling water bath four minutes. Compare colors with those of the standard scale. Divide the reading by the fraction of a cubic centimeter of distillate used, which gives the percentage of alcohol by weight. The use of several tubes permits close checking of the results and gives greater opportunity for having readings on the scale.

If results are too low to be read, use the weak standards, with 2 cc. of the distillate and known smaller amounts, bringing the volume to 2 cc. in each case, add 1 cc. of the reagent to each tube and place tubes in boiling water twelve minutes.

If blood is being tested take 2 cc. of whole blood, plasma or serum, add about 15 cc. of the picric-tartaric reagent and collect the first 10 cc. of the distillate. This is tested on the weak standard scale and the result multiplied by 5. Specimens of urine which have been saturated with benzoic acid retain their alcoholic content indefinitely.

Interpretation: No minimal figure of alcoholic content in body fluids can be set as having absolutely no effect on individuals. However, most persons are definitely under the influence of alcohol at 0.10 per cent, and all who have been examined under well controlled experimental conditions are found to have lost some of that clearness of intellect and control of themselves which they would normally possess, when the alcohol reaches 0.20 per cent. The Committee on Tests for Intoxication of the National Safety Council, therefore, recommends that persons with a concentration of alcohol of less than 0.05 per cent in the blood or 0.07 per cent in the urine should not be prosecuted as being under the influence of alcoholic liquor. When the alcoholic reading is between 0.05 per cent in the blood (or 0.07 per cent in the urine) and 0.15 per cent in the blood (or 0.20 per cent in the urine) the alcohol test can be used for confirming obvious intoxication. When the alcoholic concentration exceeds 0.15 per cent in the blood or 0.20 per cent in the urine there is sufficient impairment to diagnose the person as being under the influence of alcohol even without confirmation by physical signs. These figures are needlessly high but have been accepted as practical since there will be no danger of injustice. An additional important interpretation of the results is the possibility of calculating the amount of unoxidized alcohol in the body at the time the specimen was taken. For example, a person weighing 150 pounds whose urine contains 0.20 per cent of alcohol has accumulated in his body 4 ounces (120 cc.) of absolute alcohol by volume.

TRANSVERSE MYELITIS AND NEOARSPHENAMINE

To the Editor:—A 50 year old woman with asymptomatic syphilis was given a fifteen weeks course of bismuth followed by two injections of neoarsphenamine (0.3 and 0.45 Gm.). After the second injection of neoarsphenamine there was nausea and vomiting, a maculopapular eruption, edema of the face and (three days after the injection) sudden paralysis of the legs and bladder. The spinal fluid gave a negative Wassermann reaction, an 0—0 colloidal gold curve and 5 cells. Despite repeated doses of 1 Gm. of sodium thiosulfate intravenously, the use of large doses of thiamin chloride and whole B complex, the patient at present, ten days after the onset of the paralysis, shows no change. The cranial nerves are normal, as are the upper extremities. There is a band of hyperesthesia at the level of the umbilicus (the tenth thoracic vertebra). From the hips down, including the saddle area, there are absence of pain and temperature sensation, normal sense of position, movement and vibration, and absolute paralysis. The abdominal reflexes are absent. The knee jerks and ankle jerks, at first diminished, are now hyperactive and equal. There is a bilateral Babinski reflex. Plantar stimulation frequently results in a primitive withdrawal response of the extremity. Besides catheterization and antiseptic treatment to the bladder, the patient is receiving increasing doses of potassium iodide and moderate doses of vitamin B complex. What additional therapy can you suggest and what is the prognosis? Do you believe that this patient had vascular thrombosis, hemorrhage or myelitis in the thoracic cord?

M.D., Indiana.

ANSWER.—From the description and history, it would appear that a transverse myelitis had developed in this patient. The treatment is symptomatic; namely, care of the bladder, massage of the lower extremities, and local heat in the region of the thoracic vertebra, now that sodium thiosulfate has been given. The prognosis is indeterminate, since about 30 per cent of these patients regain function of the lower extremities, undoubtedly depending on the amount of hemorrhage that has occurred in the spinal cord. This complication occurs often in patients who have an intercurrent respiratory infection and is also seen in persons who have not had arsphenamine, so it is not possible to incriminate only the arsenic in those cases in which such treatment has been given. The fact that this patient was demonstrating evidence of intolerance to the neoarsphenamine, however, lends weight to the inference that the arsenic in this case assumed an etiologic role.

ANGIONEUROTIC EDEMA FROM FRYING BEEFSTEAK AND FROM OXYDOL SOAP

To the Editor:—Six months ago a white woman aged 32 began to have infrequent mild attacks of angioneurotic edema when she fried beefsteak or used oxydol soap. The attack is not brought on by using the same shortening for frying other foods or in the use of other soaps nor is it brought on with the ingestion of beef. What tests can be made, and can the patient be desensitized? The attacks are now much more frequent and severe. There is no history of familial allergy. If she cannot be desensitized, what is the best form of treatment for prevention?

M.D., Michigan.

ANSWER.—Instances of allergic reactions, both of the respiratory and of the cutaneous type, due to odors from the frying or cooking of foods are not uncommon. In the majority of such cases of food sensitivity ingestion will also cause allergic symptoms. However, there are undoubted instances in which allergens will cause allergic manifestations only by inhalation and not by ingestion. Examples of these are bakers who are sensitive to wheat flour and can eat wheat products without any disturbance. During the ordinary process of cooking beef, no doubt the major part of the allergic activity of this food is destroyed, and what is left undestroyed may be so thoroughly digested that but little of the active element goes into the circulation. Oxydol soap, as is the rule with many soaps of similar character, has no doubt as its basis beef fat. This may account for the similarity in action between the soap and the frying of beefsteak. However, this soap also has a fairly strong chemical irritant which may act in a nonspecific way to disturb the allergic individual. The test that would appear to be indicated here is a test with beef protein. If the latter reacts, desensitization treatment with a beef extract might result in a sufficiently great tolerance to prevent symptoms. If the patient cannot be desensitized, it is likely that the preparation of beefsteak by such methods as broiling will eliminate the difficulty.

COCCYGODYNIA

To the Editor:—Would you kindly outline the treatment for coccygodynia? In a case in which presacral nerve resection is indicated for other conditions would the coccygodynia be relieved?

M.D., California.

ANSWER.—Coccygodynia usually responds to conservative measures: rest, avoidance of pressure on the coccyx, warm baths and sometimes radiant heat. If this fails, removal of the coccyx gives relief in the majority of cases.

A generation ago the indiscriminate use of coccygectomy tended to discredit the operation, but in recent years there has been a more careful selection of cases, limiting the selection to those cases wherein the pain is confined to the coccyx only. Many times neurasthenic persons complain of radiating pains up the spine in the region of the sacro-iliac joints, and the pain in the coccyx is only one of many complaints. These patients do not respond well to coccygectomy.

It is doubtful whether resection of the presacral nerve would relieve pain in the coccyx.

ACCURACY OF BLOOD CULTURES IN BACTEREMIA

To the Editor:—In infections of the blood stream such as streptococcic septicemia, are groups of the pathogenic organism always present in the circulating blood or are these organisms present only at infrequent intervals? In other words, is there not a great possibility of many positive blood cultures reported by laboratories being contaminations rather than micro-organisms from the blood streams, as suggested by Boyd in his Surgical Pathology?

M.D., Kentucky.

ANSWER.—In infections of the blood stream such as streptococcic septicemia, organisms may be constantly present in the blood stream or these organisms may be present only at intervals. A distinction is sometimes made, more or less theoretically, between septicemia, in which bacteria supposedly multiply in the blood stream, and bacteremia, in which organisms are in the blood stream at intervals but are destroyed at a rate somewhat the same as their rate of entry. This would have no bearing, however, on the question as to whether or not any positive blood cultures reported by laboratories are contaminations rather than micro-organisms from the blood stream. This question may be decided by the nature of the organism in question. For instance, it is more likely that Bacillus subtilis would be a contamination than an actual invader of the blood stream. With a staphylococcus it might come either from the skin as a contamination or from the blood stream itself. Whether it is one or the other might be decided by plate cultures better than by liquid cultures, because in case the organism came from the blood it would be present in larger numbers in the plates. On the other hand, when such organisms as typhoid bacilli are found in blood cultures the chance of their being a contamination is remote. In any case, the care in technic is a factor in such decisions.

CHRONIC ARTHRITIS AND DIPHTHERIA

To the Editor:—Two cases of chronic arthritis which developed after diphtheria raise the question as to whether or not diphtheria may be the causative factor of a chronic type of arthritis. (I am aware that infectious diseases frequently cause acute arthritis.) Have you any information relative to such a probable infection and can you suggest any therapy that might be helpful in postdiphtheritic arthritis? M.D., New York.

ANSWER.—No reference has been found to chronic arthritis of diphtheritic origin. According to Hench (Nelson Loose-Leaf Surgery, 1938) the joints may occasionally become swollen and painful early in the course of diphtheria, and in such instances specific organisms have been isolated. No details are given as to the duration of the arthritis in these cases. In one large series of cases of chronic arthritis (Bannatyne, 1898) there was a report of two patients who dated the onset to an attack of diphtheria, but again no details are given. Since attacks of rheumatoid arthritis often follow infections of varying types, only a coincidental or precipitating role can be assigned to diphtheria in these two cases without further evidence. We are unable to suggest any specific therapy for the inquirer's cases but would advise culture of joint fluid, if obtainable, and even synovial biopsy in order to establish a diagnosis.

NO KNOWN NARCOTIC ACTION FROM ELEPHANT TREE

To the Editor:—1. Along with a number of other amateur naturalists, I have lately been much interested in the finding of a half dozen or so specimens of the rare elephant tree in southern California. It grows in inaccessible places in the mountains of the desert and botanically is Bursera microphylla. I am one of the few white people who have seen it, and in tracing out all the information that I could get about it I came on some tales of the Cahuilla Indians—now living near the famous resort at Palm Springs—to the effect that the tree, or some part of it, has poisonous or narcotic effects. These tales are vague, for the old Indians are too superstitious and afraid of the tree to tell much about it and the younger ones do not know. I could not discover the part of the tree used by them nor the mode of preparation, but it seems certain that they used it for its physical effects; from the description, I was reminded of marihuana and the cannabis drugs. Can you give me any proved facts about it? What poison or narcotic is in it, what part of the tree contains it, what are the pharmacologic effects? 2. Can you tell me what poisons were used in the "poison rings" used in Roman times for suicide and during the Renaissance for murder? There are not so many poisons violent enough to kill in the dose that could be concealed in a ring, and in days when the drugs were not so highly purified a lethal dose must have been even more bulky. Doubtless many tales of them are much exaggerated, but there seems to be no doubt of the actual use of some such device, and I should be interested to know what drugs were actually used. M. J. GROESBECK, M.D., Porterville, Calif.

ANSWER.—1. No references could be found in the accessible literature to Bursera microphylla, but quite a number of other species have been studied. These all contain aromatic resins and have been used as vulnerary, alterative, antispasmodic, antirheumatic and similar indefinite indications, like elemi, aloe wood or guaiac. Nothing is known about narcotic actions, but odorous resins are frequently used in religious ceremonials. "Incense" is a well known example.

2. There is no definite information about poison rings. One guess is as good as another, and the best guess perhaps is that mystery is often thickest when there is nothing to hide.

CHRONIC MICROCOCCUS CATARRHALIS PROSTATITIS

To the Editor:—A white man aged 26 has been treated for several months for a chronic prostatitis. He has no subjective symptoms, but the prostate is tender on palpation. The causative organism by culture and by fermentation reactions was found to be Micrococcus catarrhalis. His wife was first seen by me because of a severe cervicitis, which proved to be due to the same organism. Several years ago a similar cervicitis developed in a woman following intercourse with this man. Treatment has consisted of prostatic massage at weekly intervals and a course of neoarsphenamine 0.3 Gm. at weekly intervals. Sulfanilamide 80 grains (5.3 Gm.) was given but, because of nausea and the patient's inability to work, it was discontinued after two days. Since then he has continued the prostatic massages at weekly intervals and is taking methenamine and ammonium chloride 45 grains (3 Gms.) each for five days, alternating with citrocarbonate for five days. The literature seems to be void of suggestions on the treatment of Micrococcus catarrhalis prostatitis. The patient has chronic infected tonsils and I wonder whether this could be the source of the prostatitis. I would appreciate any further suggestions as to treatment. PAUL W. TULLY, M.D., Temple City, Calif.

ANSWER.—Chronic prostatitis is an extremely resistant condition to treat. With the apparent long duration of treatment in this case, urethroscopic examination to rule out the presence of dilated ducts should be performed. If prostatic calculi have not been excluded by x-ray examination of the prostatic area, this should be done. In view of the finding of Micrococcus catarrhalis, a thorough search for dental and tonsillar foci is advised, with eradication if present. After this has been done, prostatic massages might be continued at intervals of every three to four days, along with one of the newer derivatives of sulfanilamide which might be more easily tolerated. Vesical irrigations and posterior urethral instillations with a suitable antiseptic are often of value in treating this condition.

TESTS FOR GAS POISONING

To the Editor:—Can you refer me to any tests which would be significant in connection with gas poisoning? Our gas here is a mixture of natural gas and that derived from coke. The situation is one in which a child suffered a moderate degree of gas poisoning.

FRED MOORE, M.D., Des Moines, Iowa.

ANSWER.—Natural gas is unlikely to contain dangerous quantities of carbon monoxide, but artificial fuel gas may be rich in carbon monoxide content. At the time of the alleged gassing of the child it would have been possible to determine the extent of the hemoglobin fixation by carbon monoxide. Several tests of this character are available, including the Christman test (Christman, A. A., and Randall, E. L.: A Convenient and Accurate Method for the Determination and Detection of Carbon Monoxide in Blood, *J. Biol. Chem.* **102**:595 [Oct.] 1933), which is one of the best, and the pyrotannic method, which is carried out more readily, is more frequently available but is less accurate than the Christman test. The making of examinations of the patient at this late time is of little avail. The quantity of carbon monoxide in the gas supply is undoubtedly known to the purveyor and, in addition, may be determined by any good testing laboratory.

ZEOLITE WATER SOFTENER

To the Editor:—A patient who suffers from ureteral stones has been advised to drink soft water, as the water here is rather heavy with salts. He has brought in to me a water softener put out by the National Aluminate Company, Zeolite Department, 6216 West Sixty-Sixth Place, Chicago. Can you give me any information about this product and is the water passed through it fit for drinking purposes? I will appreciate your advice on this matter at your earliest convenience.

J. E. GARDNER, M.D., Portales, N. M.

ANSWER.—The type of water softener mentioned, if operated properly, should give a soft water. The effect of softening water by the zeolite process is to exchange calcium and magnesium in the dissolved salts of the water for sodium, which is contained in the zeolite, the result being to reduce the hardness in the water treated. The water after being softened will, however, contain dissolved salts. A practical way to eliminate all dissolved salts in water used in small quantities for medicinal purposes would be to use distilled water.

NIGHT CHILLS AND LOW BLOOD PRESSURE

To the Editor:—A man aged 56 has severe chills at night. He has to get up and walk around the house to obtain relief. He sometimes becomes rigid and afterward sweats. This has been going on for several years. He has no ambition. The attacks affect the pit of the stomach and he has a disagreeable feeling in the bowels at that time. He is thin and active, being the baggage master at a railroad station. He does heavy lifting. The appetite is good and the bowels are regular; he appears nervous, can't keep his hands still, has been sleeping pretty well until lately and perspires easily. The heart is normal, with a pulse rate of 80, somewhat weak; the blood pressure is 80 systolic 60 diastolic. I have given him all kinds of medicine to raise the blood pressure, diathermy up and down the spine plus massage of the spine. Nothing will raise the blood pressure. He is active and seems normal except for the chills and the low blood pressure. Can you tell me what ails him and what the treatment is?

M.D., New Hampshire.

ANSWER.—Many important details that might contribute toward a diagnosis are omitted from this question. Are these real chills or are they chilly sensations? Real chills are always accompanied by and followed by a rise in temperature and are usually indicative of infection, either parasitic or bacterial. Is the rigidity a convulsive seizure or merely stiffness of the muscles? Accurate observation in these points would do much to limit the possibilities.

On the basis of the information given, this appears most likely to be a case of autonomic instability. It seems unlikely that there is parasitic or infectious disease, although parasitic diseases such as malaria or filariasis sometimes continue intermittently over a period of years.

Addison's disease or adrenal insufficiency must be considered. Is there pigmentation of the skin or has a blood chloride determination been done? Marked anemia, either secondary or primary, might produce such a picture.

A low blood pressure per se is not particularly objectionable, but a systolic pressure of 80 mm. is always a source of anxiety.

The correspondent does not state what medication has been used apart from diathermy and massage. Symptomatically, amphetamine sulfate might be helpful, but it may produce wakefulness if given too late in the day. Adrenal cortex extract and sodium chloride should be beneficial if this is adrenal insufficiency. A more accurate diagnosis would assist in planning the therapy.

NOCTURNAL PAINFUL URINATION IN INFANT

To the Editor:—A boy aged 11 months has been waking out of a sound sleep and crying severely. The crying continues until he urinates, after which he quiets down and goes to sleep. I have seen him once in such an attack, which lasted about a half hour; he seemed unable to urinate although he tried frequently. At this time there seemed to be tenderness over the region of the bladder and palpation there would increase the severity of his crying. I finally put him in a hot sitz bath, with relief in a few minutes. The frequency of the attacks is variable, sometimes coming on several nights in succession and then going for a week or two before another attack. The day after an attack there is usually a pronounced diuresis. Urinalysis has been consistently negative with specimens taken immediately after the attack, the next morning and at intervals between attacks. The attacks do not seem to be increasing in frequency. I put him on atropine sulfate 1: 1,000, of which he is getting three drops three times a day, with apparent relief. Other than a spasm of the bladder and sphincters, could you give any suggestions as to this case?

M.D., Minnesota.

ANSWER.—Congenital valves are a form of anomaly causing intermittent obstruction of the posterior urethra. They are composed of one or two membranous folds with one end attached to the verumontanum and the other end to the lateral urethral wall. As urine flows from the bladder the folds are ballooned out, causing a diminution of the urethral lumen and hence obstruction. An iris diaphragm, a thin membranous congenital band completely or partially encircling the posterior urethra, can also cause partial obstruction. Posterior urethral obstructions are being described with increasing frequency in young children. They are rarely encountered in girls. They usually become manifest during the first year of life.

Obstruction of the bladder neck also seems to occur as a congenital anomaly as a shelf or bar on the floor of the bladder neck. This is also mostly in males, but symptoms usually appear after 1 year of age.

A bladder stone with intermittent obstruction must also be considered, although it is doubtful whether the urine would remain repeatedly negative.

An ulcerated meatus of the penis from ammoniacal urine might temporarily adhere (fibrin and the like) until the pressure of the urine behind forces the meatal lips open. This could be detected by inspecting the end of the penis.

The other conditions mentioned would require urologic investigation.

COMMUNION CUP AND BACTERIA

To the Editor:—Has there been any bacteriologic investigation regarding the common communion cup as used in the Episcopal Churches? I have never heard of any such researches being made, but the practice of passing the cup from lip to lip certainly stirs the imagination of any one with a medical training. Whenever I mention the subject, church officials reply "Did you ever hear of an infection from this source?" This unscientific answer does not satisfy me. I still believe that bugs can get by a church door, and that even the most devout may be a host to a Tubercle bacillus—even a spirochete!

W. H. GODFREY, M.D., Toronto, Canada.

ANSWER.—No published report on the survival of bacteria on the chalice used in the Episcopal Church has been found. The possibility of the transmission of infection by this means is not to be denied, but ancillary evidence suggests that it is unlikely. The bactericidal activity of some of the heavy metals, or "oligodynamic action of metals," is well known. Copper, silver and gold coins, for example, carry few bacteria and rarely, if ever, function as fomites in the transmission of disease. Furthermore, the bactericidal activity of silver has been utilized, by the German workers in particular, in the disinfection of water by the catadyne process and by filtration through the so-called silbersand filters. The rim of the silver chalice, therefore, unlike that of the drinking glass or china cup, is not an indifferent surface on which the survival time of a microorganism is conditioned by its resistance to drying but is in itself actively bactericidal. After one person has made his communion, the officiating priest wipes the rim of the chalice and rotates it slightly so that the next person puts his lips to an adjoining spot. Commonly from three to five minutes elapses before a particular section of the chalice rim is touched to the lips of a second person. Bacteria that are present are therefore exposed in a thin film of mixed saliva and wine to the polished silver surface for this length of time before they are transferred to the lips of another person. The bactericidal activity of the alcohol present in the wine, even in the fortified wines such as port, is probably negligible. On the other hand, wine in prolonged contact with the chalice may acquire some degree of bactericidal activity, and its dilution with water containing appreciable quantities of residual chlorine may add to its slight germicidal properties. The fact that no epidemic has been traced to the use of the silver chalice is in itself of no little significance and is suggestive of the relative unimportance of the common use of the chalice in the transmission of disease.

ALLERGY TO LIVER PREPARATIONS

To the Editor:—A patient with pernicious anemia is markedly sensitive, allergically, to liver extract. Up to the present time I have tried Lilly's liver extract and the concentrated so-called reticulogen, and a liver extract put out by the U. S. Standard Products Company. About twenty minutes after each injection severe asthma and shock develop. She is, however, able to take liver extract by mouth without developing any allergic reactions, but I have been unable to give her sufficient liver extract to keep up her blood count. Are there any other suggestions as to forms of liver extract that I might use? Would ventriculin used alone be sufficient?

C. G. OCHSNER, M.D., Wabasha, Minn.

ANSWER.—This is a difficult situation. Liver extract from another manufacturer might be tried, preferably a highly refined and concentrated extract. In most cases of this kind, however, the patient is sensitive to all parenteral liver extracts and oral treatment must be used exclusively. Ventriculin alone or oral liver extract alone is usually satisfactory. Perhaps the dose used in this case was not large enough. In some instances spontaneous disappearance of the allergic condition has been noted after a period of months on oral treatment.

STERILIZATION OF PESSARIES

To the Editor:—Can you tell me the best method of refinishing, sterilizing and keeping hard rubber pessaries in condition for use? Up to the present I have been keeping them in solution of formaldehyde, but I find that the pessary loses its smooth finish in this solution.

THADDEUS L. MONTGOMERY, M.D., Philadelphia.

ANSWER.—All pessaries, whether newly purchased or removed from the vagina of a woman to be used again, should be thoroughly washed with soap and water and soaked in alcohol for a few days. They should then be placed in a sterile container and kept in it until ready to be used. A smooth finish is not essential for the proper functioning of a pessary.

DIET FOR ADDISON'S DISEASE

To the Editor:—With regard to a varied diet for Addison's disease I have referred to my back numbers of medical journals and have obtained some valuable information, but the diet suggested in them is quite confining. I would appreciate knowing where I might obtain one which has many more possibilities of a varied bill-of-fare.

R. F. DEARBORN, M.D., Orangeville, Ill.

ANSWER.—Investigations indicate that considerable advantage attends the restriction of potassium in the diets of patients with Addison's disease. To effect this without interfering with the palatability of the diet requires careful planning. Detailed directions for arranging such a diet have been published by Sister Mary Victor of the Department of Nutrition, St. Mary's Hospital, Rochester, Minn. (*J. Am. Dietet. A.*, December 1938). Reprints of the article can be obtained from the author.

INTESTINAL IMPLANTATION OF ACIDOPHILUS BACILLUS

To the Editor:—Please be good enough to outline the best system for implanting the acidophilus bacillus in the intestine. Can this be accomplished satisfactorily without the use of intestinal irrigations? If intestinal irrigations should be employed, would it be satisfactory to have the patient drink 1 quart (1 liter) of isotonic salt solution the first thing in the morning once or twice a week as a substitute for intestinal irrigation?

M.D., New York.

ANSWER.—Acidophilus bacilli may be implanted in the intestine in two ways: They may be given in the form of acidophilus buttermilk or of acidophilus bacilli prepared in some other viable form. The preparation should be taken at least one hour before mealtime. Liquids leave the stomach sooner and the bactericidal action of the gastric juice does not have time to attenuate the organism. Also a glassful of buttermilk may be taken at bedtime.

This growth in the intestine is markedly accelerated if the patient consumes at least 25 to 50 Gm. of lactose a day. If one wants to implant the organism locally into the intestine the

best method is to give an enema with physiologic solution of sodium chloride and after that 1 ounce (30 cc.) of a good viable broth culture, injected by rectal tube with the patient lying on the left side, and then rolling over on the back and then over on to the right side. This should be repeated daily for two weeks, and the cultures may be kept up by mouth for an indefinite time.

If one employs a more vigorous intestinal irrigation this material can be injected at the end of the completion of the irrigation. Finally, patients should be instructed during this time to be on a relatively low protein, high carbohydrate diet.

ELECTRICAL STIMULATION OF BRAIN

To the Editor:—Does psychiatric literature report electrical shock procedures for the treatment of mental disorders? Would it be possible to produce epileptiform attacks by stimulation of the motor area of the brain? Could this area be isolated and stimulated through the skin? Should alternating or continuous current be used and in what strength and in what arrangement? What would be the dangers, contraindications and possible death limit? ERNST FANTL, M.D., Beacon, N. Y.

ANSWER.—There is no electrical shock procedure for mental disturbances. Epileptic attacks can be produced by stimulating the motor area of the brain, but only when the brain is exposed; this is done only for localizing purposes at the time of operation. With the skull intact, this cannot be done with any degree of safety.

NO METHOD TO REDUCE SKIN PIGMENT OF NEGROES

To the Editor:—Has an attempt ever been made to change the color of the skin of Negroes to white, at least the face and hands? What chemicals would have the quality to destroy the melanin without harming the rest of the skin? Could a white skin color be given temporarily or permanently to Negroes? E. FANTL, M.D., Beacon, N. Y.

ANSWER.—There is no known practical method to reduce the quantity of pigment in Negro skin so that the appearance of the skin of a Caucasian is approached. There may be a loss of pigment from patches of the skin in Negroes just as in persons of other races in vitiligo. Rarely this loss may be general. The color of the skin in such instances becomes a dead white. Even blond persons are somewhat pigmented, which gives them a different hue from that seen in vitiligo.

TWINS AND STERILITY

To the Editor:—Is the percentage of sterility greater among twins and if so is it greater among enzygotic or dizygotic twins? M.D., Illinois.

ANSWER.—There is no evidence indicating that human twins are any more or less sterile than singly born persons. The idea about sterility in twins comes from the freemartin situation in cattle. There is no such situation in human beings.

GENITO-ANAL PRURITUS

To the Editor:—About four weeks ago a man aged 34, an office worker, complained of pruritus ani of five days' duration. The anus appeared mildly inflamed, edematous and slightly prolapsed. A tentative diagnosis of beginning hemorrhoids was mentally made. The patient was given suppositories. One week later the pruritus had spread to the scrotum and five days later to the shaft of the penis. The itching was intense. The lesion could be observed on the scrotum and penis. It consisted of a reddened glazed appearance of the skin with slightly elevated, irregularly shaped pinpoint papules. Relief could not be obtained from ammoniated mercury and even ointment of nupercaine liberally applied failed to give the patient comfort. A bath (sitz) in sodium bicarbonate solution caused only smarting and gave no relief. During the past three weeks the itching has awakened the patient three or four times a night. A week ago the pruritus in the anus subsided, as did the itching of the scrotum, and four days ago the itching disappeared from the penis. Two days ago the symptoms recurred in the anus and yesterday all the symptoms returned and there is now itching of the anus, the scrotum, the penis and the groins. Any advice as to diagnosis and treatment will be appreciated. M.D., Pennsylvania.

ANSWER.—From the description given of the original appearance of this patient's anal area it seems reasonable to assume that the condition was an inflammatory response to a local irritant. This may have been of external origin or possibly from the gastrointestinal tract. Infection would be less likely, according to the description. It is entirely possible that continued exposure to an irritant or the treatment may have caused the extension of the dermatitis to the genitalia. Sudden recurrence of the condition supports the probability of an irritant as the cause of the condition, and further extension to the groins might be expected.

Treatment at this stage should consist of the mildest soothing agents available. Hot compresses of boric acid solution for from fifteen to twenty minutes several times a day, with interim application of calamine lotion N. F., plus 0.5 per cent phenol, should afford relief from pruritus and allay inflammation. When the areas become dry, a bland ointment such as zinc oxide ointment or boric acid ointment may be applied.

Meanwhile a painstaking search should be instituted for any possible sources of irritation, including home contacts, hobbies, recreational habits, excursions into the country, self medication for real or fancied anorectal troubles, laxatives or other oral medication, dietary habits, toilet tissues, soaps or other cleansing agents, laundry, clothing and the like.

When the condition has subsided, or sooner if feasible, the possibility of infection may be ruled out by microscopic or cultural investigation.

Council on Medical Education and Hospitals

ADDITIONAL HOSPITALS APPROVED

The Council on Medical Education and Hospitals of the American Medical Association has given its approval to the following hospitals since the publication of the last previous list in THE JOURNAL, March 11, 1939:

Hospitals Approved for Intern Training

St. Joseph Infirmary, Atlanta, Ga.
Moline Public Hospital, Moline, Ill.
Edward W. Sparrow Hospital, Lansing, Mich.
St. Lawrence Hospital, Lansing, Mich.

Residencies and Fellowships

Leo N. Levi Memorial Hospital, Hot Springs National Park, Ark.
Mixed.
Baptist State Hospital, Little Rock, Ark.
Medicine, Surgery.
Collis P. and Howard Huntington Memorial Hospital, Pasadena, Calif
Medicine.
Denver General Hospital, Denver.
Fractures.
Georgetown University Hospital, Washington, D. C.
Dermatology-Syphilology.
Providence Hospital, Washington, D. C.
Surgery.
Sibley Memorial Hospital, Washington, D. C.
Obstetrics.
Tuberculosis Sanatorium (Glenn Dale, Md., P. O.), Washington, D. C
Tuberculosis.
St. Joseph Infirmary, Atlanta, Ga.
Medicine, Surgery.
Children's Memorial Hospital, Chicago.
Orthopedics.
Grant Hospital, Chicago.
Obstetrics, Surgery.
Mercy Hospital-Loyola University Clinics, Chicago.
Medicine, Obstetrics-Gynecology, Surgery.
Mount Sinai Hospital, Chicago.
Medicine.
Research and Educational Hospital, Chicago.
Anesthesia.
University of Chicago Clinics, Chicago.
Tuberculosis.
Kosair Crippled Children Hospital, Louisville, Ky.
Orthopedics.
Sydenham Hospital, Baltimore.
Communicable Diseases.
Union Memorial Hospital, Baltimore.
Obstetrics.
Massachusetts Memorial Hospitals, Boston.
Urology.
Mary Imogene Bassett Hospital, Cooperstown, N. Y.
Medicine, Surgery.
Charles S. Wilson Memorial Hospital, Johnson City, N. Y.
Pediatrics.
French Hospital, New York City.
Anesthesia, Obstetrics.
New York Polyclinic Medical School and Hospital, New York City.
Gynecology, Medicine.
Watts Hospital, Durham, N. C.
Pediatrics, Urology.
University of Oregon Medical School Hospitals and Clinics, Portland.
Anesthesia, Urology.
Harrisburg State Hospital, Harrisburg, Pa.
Psychiatry.
Friends Hospital, Philadelphia.
Psychiatry.
Temple University Hospital, Philadelphia.
Pediatrics.
Woman's Hospital, Philadelphia.
Gynecology, Medicine, Obstetrics, Surgery.
Medical Arts Hospital, Dallas, Texas.
Mixed.
Mary Fletcher Hospital, Burlington, Vt.
Medicine.
Charleston General Hospital, Charleston, W. Va.
Traumatic Surgery.
St. Francis Hospital, Charleston, W. Va.
Mixed.

Medical Examinations and Licensure

COMING EXAMINATIONS

STATE AND TERRITORIAL BOARDS

Examinations of state and territorial boards were published in THE JOURNAL, June 10, page 2461.

NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS: Parts I and II. Medical centers having five or more candidates desiring to take the examination, June 19-21 and Sept. 11-13. Ex. Sec., Mr. Everett S. Elwood, 225 S. 15th Street, Philadelphia.

SPECIAL BOARDS

AMERICAN BOARD OF ANESTHESIOLOGY: An Affiliate of the American Board of Surgery. *Written.* Various places throughout the United States, Sept. 9. Applications must be filed by July 11. *Oral.* Part II. Philadelphia, Oct. 14-15. Sec., Dr. Paul M. Wood, 745 Fifth Ave., New York.

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOLOGY: Philadelphia, Oct. 30-Nov. 1. Sec., Dr. C. Guy Lane, 416 Marlboro St., Boston.

AMERICAN BOARD OF INTERNAL MEDICINE: *Written.* Various sections of the United States, Oct. 16 and Feb. 19. Formal application must be received before Aug. 20 for the Oct. examination and on or before Jan. 1 for the Feb. examination. Sec., Dr. William S. Middleton, 1301 University Ave., Madison, Wis.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: *Part I (Group B)* will be held in various cities, Dec. 2. *Part II (Groups A and B)* will be given at Atlantic City, N. J., June 6-8. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh (6).

AMERICAN BOARD OF OPHTHALMOLOGY: *Written.* August 5 and April 6. Formal application must be received before July 1 for the August examination and before January 1 for the April examination. *Oral.* Chicago, Oct. 7 and New York, June 10. Sec., Dr. John Green, 6830 Waterman Ave., St. Louis.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: Boston, January. *Applications must be filed on or before Nov. 1.* Sec., Dr. Fremont A. Chandler, 6 N. Michigan Ave., Chicago.

AMERICAN BOARD OF OTOLARYNGOLOGY: Chicago, Oct. 6-7. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

AMERICAN BOARD OF PATHOLOGY: Memphis, Nov. 22-23. Sec., Dr. F. W. Hartman, Henry Ford Hospital, Detroit.

AMERICAN BOARD OF PEDIATRICS: Cincinnati, Nov. 15. Appointments must be made before July 15. Sec., Dr. C. A. Aldrich, 723 Elm St., Winnetka, Ill.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: New York, December. Sec., Dr. Walter Freeman, 1028 Connecticut Ave. N.W., Washington, D. C.

Arizona January Report

Dr. J. H. Patterson, secretary, Arizona State Board of Medical Examiners, reports the written examination held at Phoenix, Jan. 4-5, 1939. The examination covered ten subjects and included 100 questions. An average of 75 per cent was required to pass. Four candidates were examined, all of whom passed. One physician was licensed by reciprocity. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
University of Southern California School of Medicine		(1935)	88.4
Chicago Medical School		(1938)	80.4
Rush Medical College		(1936)	87.3
Columbia Univ. College of Physicians and Surgeons		(1930)	85.6

School	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Nebraska College of Medicine		(1932)	Nebraska

Illinois January Examinations

Mr. Homer J. Byrd, superintendent of registration, Department of Registration and Education, reports the written examination (graduates of foreign schools given also a practical test) held in Chicago, Jan. 24-26, 1939. The examination covered ten subjects and included 100 questions. An average of 75 per cent was required to pass. Seventy-two candidates were examined, sixty-eight of whom passed and four failed. The following schools were represented:

School	PASSED	Year Grad.	Per Cent
Howard University College of Medicine		(1937)	82
Chicago Medical School		(1939)	81*
Loyola University School of Medicine		(1939)	80, 82
Northwestern University Medical School		(1937) (1938)	87, 79, 82, 82, 82, 83, 83, 83, 84, 84, 84, 84, 85, 87, 87, 87*
Rush Medical College		(1936) (1937)	82,* 81, 82, 83, 85, 85, 86, 86, 88
School of Med. of the Division of Biological Sciences		(1937)	86
University of Illinois College of Medicine		(1936) (1937)	78, 87, (1938) 80, 81, 81,* 82, 82, 83, 83,* 84, 84, 85, 85, 85,* 87,* 87, 88
University of Buffalo School of Medicine		(1936)	80
University of Rochester School of Medicine		(1937)	84
University of Wisconsin Medical School		(1935)	76*
University of Toronto Faculty of Medicine		(1937)	82
University of Western Ontario Medical School		(1935)	83
McGill University Faculty of Medicine		(1937)	82, 83
Medizinische Fakultät der Universität Wien.		(1925)	76, (1929) 78
Université de Liège Faculté de Médecine		(1934)	79
Deutsche Universität Medizinische Fakultät, Prag		(1929)	81
Université de Nancy Faculté de Médecine		(1936)	75
Université de Paris Faculté de Médecine		(1937)	79
Christian-Albrechts-Universität Medizinische Fakultät, Kiel		(1923)	75
Friedrich-Wilhelms-Universität Medizinische Fakultät, Berlin		(1922)	77, 80
Julius-Maximilians-Universität Medizinische Fakultät, Würzburg		(1908)	76
Ludwig-Maximilians-Universität Medizinische Fakultät, München		(1934)	79, (1936) 78
Magyar Királyi Erzsébet Tudományegyetem Orvostudományi, Pecs		(1923)	76
Regia Università degli Studi di Roma. Facoltà di Medicina e Chirurgia		(1936)	77

School	FAILED	Year Grad.
Medizinische Fakultät der Universität Wien		(1923), (1936)
Regia Università degli Studi di Roma. Facoltà di Medicina e Chirurgia		(1933)
State Institute of Medical Science, Leningrad		(1924)

Twenty physicians were successful in the practical examination for reciprocity and endorsement applicants held in Chicago, January 26. The following schools were represented:

School	PASSED	Year Grad.	Reciprocity with
Stanford University School of Medicine		(1931)	California
Keokuk Medical College, College of Physicians and Surgeons, Iowa		(1906), (1907)	Iowa
State Univ. of Iowa College of Med. (1925), (1934),		(1936)	Iowa
University of Louisville School of Medicine		(1934)	Kentucky
Louisiana State University Medical Center		(1937)	Louisiana
Johns Hopkins University School of Medicine		(1923)	Maryland
St. Louis University School of Medicine		(1937)*	Missouri
Washington Univ. School of Medicine (1933), (1934),		(1935)	Missouri
Creighton University School of Medicine		(1934)*	Nebraska
University of Nebraska College of Medicine		(1921)	Nebraska
Western Reserve University School of Medicine		(1914)	Ohio
University of Pennsylvania School of Medicine		(1932)	Minnesota
McGill University Faculty of Medicine		(1922)*	Penna.
Universität Heidelberg Medizinische Fakultät		(1923)	Iowa

School	PASSED	Year Grad.	Endorsement of
University of Michigan Medical School		(1937)*	N. B. M. Ex.

* License has not been issued.

Book Notices

Iodine and the Incidence of Goiter. By J. F. McClendon, Professor of Physiological Chemistry, University of Minnesota, Minneapolis. Cloth. Price, $5. Pp. 126, with 64 illustrations. Minneapolis: University of Minnesota Press; London: Oxford University Press, 1939.

After years of research and travel, Dr. McClendon has compiled, from many sources, a vast fund of information concerning iodine and its relation to the incidence of goiter throughout the world. This book represents a tremendous amount of work both in his iodine determinations in this country and in the statistical research on determinations made elsewhere. He has made available, within a few pages, all recent statistical information concerning the well known goiter regions, together with historical data, personal impressions and letters of scientific observations covering many centuries. Briefly, he has given the geographic distribution of this age old disease. The real value of this book lies in the seventy-nine carefully prepared tables and the splendid maps and illustrations. These cover the sources of iodine throughout the world, the variations in iodine content in fruits, grains and vegetables grown in various locations and the concomitant incidence of goiter. This material is vivid and concise and should serve as valuable reference material as to both the distribution of iodine and the incidence of goiter. The treatise on the determination of iodine is excellent and the author's method of determination is still widely used. His original investigations, from 1920 to 1924, on water analysis to determine the available iodine in any community, gave scientific support to the goiter prevention movement. The theory of iodine deficiency is the basis of this prophylactic measure. His efforts in getting accurate data, showing the distribution of iodine throughout this country and obtaining the best authoritative determinations from many lands, are a definite contribution. In general they show as nothing else could the correlation of the deficiency of iodine and endemic goiter.

Allgemeine und besondere urologische Diagnostik beim Jungkind. Von Prof. Dr. C. Noeggerath, Leiter der Universitäts-Kinderklinik in Freiburg i. Br. Die Urologie in Einzeldarstellungen. Herausgegeben von Professor Dr. H. Boeminghaus. Boards. Price, 2 marks. Pp. 32. Leipzig: Georg Thieme, 1939.

This article deals with general and special urologic diagnosis in the case of children. A brief historical review of the subject is presented. It is interesting to note the statement that the year 1929 marked the birth of real interest in this subject in Germany, which began with the use of intravenous urography. Interest has been keen and widespread in the United States for the last thirty years. The author thinks the hesitation to develop the field of urology with reference to children was due probably to the fear of the child and his reaction to instrumentation. The difficulty in focusing attention on the urinary tract has been emphasized many times by many authors, and Noeggerath, as others have done, mentions the fact that the general symptoms are often difficult to interpret and often lead one astray. Attention is called to the fact that severe disease of the urinary tract may be present without either local or general symptoms. Acute pyuria is often confused with grip. During the early stages urinary evidence may be absent. The author points out that tumors in children have no localizing symptoms for a long time, that cachexia occurs very late in the course of the disease and that hematuria is uncommon. Pain and urinary symptoms are difficult to evaluate in the first two or three years of life. Attention is called to the fact that severe pyuria is often present without fever. The various special methods of examination are considered in a systematic manner, the author taking up in turn routine x-ray films, intravenous pyelograms, instrumental examination of the urethra and bladder with sounds and bougies, cystoscopic examination, ureteral catheterization and retrograde pyelograms. The limitations and technical difficulties are stressed. Although he mentions surgical exploration and discusses it briefly, the procedure is rarely employed in this country today. The author emphasizes the great importance during these various examinations of keeping the child warm, a point that is often overlooked. The younger the child the more care should be taken to protect it against the loss of body heat. The subject of anesthesia is discussed briefly. The author does not believe that patients with acute involvement should automatically be examined with instruments, because so many of them recover. Many acute attacks of pyuria run their course in six or eight weeks. The subject of chronic pyuria is fully discussed. The author makes a strong plea for early diagnosis, for only by this means can early treatment be instituted. The necessity for teamwork between practitioner, pediatrician and urologist is emphasized.

Fundamentals of Dentistry in Medicine and Public Health. By John Oppie McCall, D.D.S., F.A.C.D., Director, The Murry and Leonie Guggenheim Dental Clinic, New York City. With a foreword by Wilson G. Smillie, M.D., Professor of Public Health and Preventive Medicine, Cornell University College of Medicine, New York. Cloth. Price, $2.75. Pp. 161, with 50 illustrations. New York: Macmillan Company, 1938.

There is but little justification for the hearty and generous endorsement of this book included with other matter in the foreword. The crude drawing reproduced in figure 1 is perhaps symbolic of the work as a whole. This is a longitudinal and not a "cross section"; even a hasty comparison of it with the very accurate illustration of a similar tooth section in the Spalteholz Anatomy (vol. 3, p. 485) reveals its many serious inaccuracies. A satisfactory presentation of the relationships of the teeth to the jaw structures cannot be shown in a single illustration. Cross sections of tooth roots could have been used advantageously, as well as illustrations depicting the position of the tooth roots with reference to the maxillary sinus, the mandibular canal and the mental foramens. Debatable concepts are introduced as accepted facts, such as that hypoplasia of deciduous teeth is a relatively common occurrence, that Hutchinson's teeth are considered a reliable index of hereditary syphilis and that impacted teeth are primary foci of infection. The choice of authorities cited is questioned on the basis both of omission and of inclusion. On the other hand, some of the illustrations are excellent, notably those taken from Kronfeld and many of the reproductions of roentgenograms. Of the twelve chapters, the first four are concerned largely with the anatomic and embryologic background, the next three with dental caries and related matter, the next three with pyorrhea, gingivitis and focal infection, and the last two with the economic and social aspects of dental practice and dental disease. On the whole this book in its present form cannot be recommended for use by physicians and medical students, even though its many obvious defects are in part balanced by the generally excellent chapters on focal infection, dental care for special groups and dental disease with reference to public health.

Sensible Dieting and the Engel Vital Calorie Diets. By William Engel, M.D. Cloth. Price, $2.50. Pp. 408. New York & London: Alfred A. Knopf, 1939.

In the foreword the author defines himself as "father of a hornet's nest of fads" and accidentally the formulator of the "Hollywood diet." The book is readable if one can tolerate the nonsense neatly sandwiched in. The newly propounded concepts are not only without sound physiologic basis but are in many instances definite misstatements. If taken seriously by intelligent adults, the volume is apt to upset their faith in medical science.

"It is true that shortly after drinking a glass of water the weight may be increased by as much as a pound, but this increase is only temporary" (page 79). Who could be so gullible as to think that "shortly after drinking a glass of water the weight may be increased by as much as a pound"? Is it not still true that "a pint's a pound the world around?" If ingestion of 8 ounces of water results in a one pound increment of weight, why is the effect not immediate rather than "shortly"? "Her loss of weight was so rapid that she became the talk of Hollywood. 'How do you do it?' she was asked by her movie colleagues. 'Simple,' said she; 'I eat lamb chops and pineapple.' The words spread like magic. Few thought it worth noticing that the girl had also been admonished to drink one to three quarts of water before each meal to ease the kidney strain of her high protein diet" (page x). According to what physiologist is one "admonished to drink one to three quarts of water before each meal to ease the kidney strain of a high protein diet," which in the instance cited consisted of "lamb chops and pineapple"?

"Incidentally, a glass of beer contains only 40 to 60 calories while a drink of liquor or a cocktail contains 300 to 450. So beer, much like water, is not fattening between meals, but is very much so between mouthfuls" (page 16). How comes it that beer (erroneously stated to contain "40 to 60 calories"—actually an 8 ounce glass rates 100 calories) "much like water, is not fattening between meals, but is very much so between mouthfuls"?

Even the veriest tyro might wince at the chemical nightmare that stalks through the book. "Starch and water are the chemical equivalent of fat. That is why it is not good to drink water with your meals" (pages 15 and 55). "In any event minimize this danger by toasting your bread and baking your potatoes. This converts the starch into dextrose—the first process of digestion—thereby avoiding the fat-producing danger of undigested starch and also, happily, reducing the calorie content by 40 per cent" (page 16). According to reputable analysis, a slice of white bread weighs 25 Gm. and furnishes 65 calories; toasted it loses 8 Gm. of water, which reduces its caloric content not one whit. But then the adherent of "Sensible Dieting" would not be eating white bread, since it "is neither an energy food nor a body-building food. It is deficient in every dietary factor except starch" (page 32). He (or, more probably, she) would be devouring whole wheat bread, since it is calculated to make one successful in love (page 61).

"Acids like tomato juice and citrus fruits are, paradoxically, alkaline in reaction, if taken at the beginning of a meal. This is because their presence in the stomach inhibits the flow of the acid gastric juices. In other words, they alkalize in a negative way by preventing over-acidity. At the end of a meal, however, these fruits are acid in reaction because they merely add acid to a stomach already amply acidified" (page 38). For the enlightening of the author, neither tomato juice nor citrus fruits are alkaline, having a p_H ranging from 4.0 to 4.3 and 2.0 to 4.0 respectively.

"Roast beef is equally digestible whether rare, medium, or well done. Hamburger steak and stewed, dried, and corned beef are digested as quickly as roast beef, but produce more

acidity" (page 39). This must be some new propaganda. "Meat has sixteen amino acids. Cheese has ten fatty ones. These two groups of acids are incompatible. When mixed in the stomach they cause gas, distention, and acute digestive distress" (page 36). This is plain misstatement.

"In simpler terms, meat once a day (the average portion contains 3.5 ounces of proteins) with the usual amount of milk, eggs, and vegetables, is ideal" (page 47). If one accepts the average portion of meat to contain 3½ ounces of protein, it must be assumed that the individual is to eat pretty close to three fourths of a pound of meat a day. The high protein protagonist should feel elated with the author's recommendation, for if 100 Gm. of protein is to come from the meat it will be very easy to have an intake of 150 Gm. or more when the protein of eggs, vegetables and milk is computed.

"Calcium deficiencies may exist for many years before making themselves evident in nervous disorders. That makes it imperative for adults as well as children to include rich calcium foods—especially milk—in their daily diets. Not only is the milk the richest of calcium foods, but the body absorbs more calcium from milk than from vegetables of equal calcium content" (page 51). Contrary to the popular conception, milk is not a rich source of calcium, as it ranks about twenty-eighth in a list of foods highest in calcium. Milk, however, is an excellent vehicle for calcium, as its volumetric ingestion is so large.

"The danger for the reducer is more one of deficiency because virtually all fad diets omit those essential calcium foods, milk, cream, and cheese" (page 52). Cream is never considered rich in calcium.

"Also it develops a thirst for water, which when taken during meals, as previously explained, combines with starch to make body fat" (page 55). This appears to exploit some of the author's newer chemistry. "But prolonged heating in open pots destroys A and C, changes B into G, does not affect D, E, and G. B, C, and G are soluble in water" (page 58). To date there is no evidence that vitamin B can be changed into vitamin G. This change would be similar to transmutation of metals. "That is why milk is called the perfect food, and eggs are near perfect" (page 71). The reviewer is not familiar with the fact that eggs are a "near perfect" food. "If the extent of acidosis is carefully watched, short repeated fasts may be safely used in the reduction of obesity" (page 87). Such a proposed practice must be heartily condemned.

At least the reader might expect the author of a book on dieting to know that the small calory of physics is not the calory of the nutritionist.

Appended to the volume is a 100 calory portion food table which is full of inaccuracies.

No reviewer would be permitted space enough to justify these diatribes, but the book is limitless in its supply of objectionable or ludicrous data. One wonders what reservoir of knowledge could have been tapped to provide the "facts" which course through the ninety-eight pages of continuity. Neither the 280 pages of diets nor the appended 100 calory portion food table can be commended. No semblance of bibliographic data is presented to substantiate the bizarre "facts."

Medizinische Praxis: Sammlung für ärztliche Fortbildung. Herausgegeben von Prof. Dr. L. R. Grote, leitender Artz der medizinischen Klinik des Rudolf-Hess-Krankenhauses Dresden, Prof. Dr. A. Fromme, Direktor der chirurgischen Abteilung des Stadtkrankenhauses Dresden-Friedrichstadt und Prof. Dr. K. Warnekros, Direktor der staatlichen Frauenklinik zu Dresden. Band XXVII: Die peripheren Durchblutungsstörungen. Von Dr. med. habil. M. Ratschow, Dozent für innere Medizin a. d. Martin-Luther-Universität Halle a. S. Mit einem Geleitwort von Prof. Dr. R. Cobet, Direktor der medizinischen Universitäts-klinik Halle a. S. Paper. Price, 9.75 marks. Pp. 193, with 46 illustrations. Dresden & Leipzig: Theodor Steinkopff, 1939.

This is the twenty-seventh volume of a series of monographs written for the general practitioner. It is the first German treatise on the disturbances of peripheral circulation and, as the author himself has stressed, leans heavily on Sir Thomas Lewis's classic description of the vascular disorders of the limbs. It is a short concise exposition of the present day status in this field. Certain statements may seem stimulating or controversial to the American reader, such as that large epidemics are followed by a marked increase in Buerger's disease, that insulin produces vasospasm, edema and hemorrhages and that lack of the insulin-free pancreatic extract may be the cause of the peripheral circulatory failure in diabetes, that small doses of ergotamine (0.05 mg.) are useful in the treatment of vasospasm, that large doses of androgenic and estrogenic substances are to be administered to men and women respectively for their vasodilating effect, that procaine acetylcholine infiltration of gangrenous parts gives relief from pain and that irradiation of sympathetic ganglions has a beneficial effect on peripheral circulation. The author is best known from his extensive studies on the visualization of blood vessels, and many excellent films are shown. He is not afraid of colloidal thorium dioxide, like several men in this country, but all the late effects of this radioactive substance have not been reported. The general practitioner has nothing to gain from a perusal of this monograph, as there are excellent books on peripheral circulation in English. For the man interested in this field it will give a somewhat rigid, dogmatic exposition of nothing new on the subject.

Diet Manual of the Mount Sinai Hospital, New York City. Third edition. Paper. Pp. 131. New York, 1939.

This loose leaf manual of the diets used at Mount Sinai Hospital, New York, is printed in readable type with wide margins. It includes height and weight tables and a table of the approximate measures of numerous foods that make up 100 Gm., with the number of calories for each food and the percentage of carbohydrate, protein and fat. Among the many diets outlined, with rules for using them, are the low calory diet, high calory diet, Sippy diet, low residue diet, low salt diet, alkaline-ash diet, elimination diets, diabetic diets and infant feeding diets.

Occupation Hazards and Diagnostic Signs: A Guide to Impairments to be Looked for in Hazardous Occupations. (Revision of Bulletin No. 306.) By Louis I. Dublin, Ph.D., Third Vice President and Statistician, and Robert J. Vane, Supervisor of Occupational Ratings, Metropolitan Life Insurance Co. United States Department of Labor, Bureau of Labor Statistics, Bulletin No. 582. Paper. Price, 10 cents. Pp. 52. Washington, D. C.: Supt. of Doc., Government Printing Office, 1933.

The third edition of this bulletin has been reissued to meet a steady demand. Nine hundred occupations, actually or potentially hazardous to the health of workers, are listed alphabetically. The hazards themselves are arranged according to a useful classification whereby symptoms, occupations in which they occur and methods of prevention are correlated. There is also a partial list of skin irritants identified with certain occupations. Physicians will find it time saving to consult this useful compilation as an introduction to more extended treatment in the standard textbooks on industrial health in the study of cases in which occupation is suspected as a contributor to poor health.

Hospital Libraries. By E. Kathleen Jones. Cloth. Price, $2.50. Pp. 208, with 8 illustrations. Chicago, Illinois: American Library Association, 1939.

This book is designed especially for younger hospital librarians with the hope that it may solve some of their problems and guide them in their service to the medical and nursing professions as well as in the service of those patients who require "bibliotherapy." In discussing books and therapy, the author suggests excluding certain types of books, and to do this the hospital librarian must have the interest and cooperation of the physician, the occupational therapist and the medical social worker. Interloan services between hospital and other libraries in the community are described. After a full discussion of the organization of hospital libraries, the author emphasizes the importance of professional libraries and the physician's greater reliance on current periodicals rather than on books. She also stresses the need for indexes, notably the *Quarterly Cumulative Index Medicus*. The development of hospital libraries and their present and future importance apparently depends on recognition of the fact that trained library personnel is the first essential of a useful library, whether it is situated in a hospital or elsewhere. The appendixes will be helpful to librarians.

Beauty Plus: The Smart Woman's Key to Beauty, Health and Charm. By Mary MacFadyen, M.D. Cloth. Price, $1.96. Pp. 272, with illustrations by Frank N. Netter, M.D. New York: Emerson Books, Inc., 1938.

The author of this volume seems to have caught the idea of making sound hygiene attractive. The book is cleverly illustrated and is a most interesting volume of general advice for women on health, beauty, recreation and the sex life.

Bureau of Legal Medicine and Legislation

MEDICOLEGAL ABSTRACTS

Hospitals: Liability for Injury to Patient from Fright Caused by Defective Electric Fan.—In a suit against the defendant, a hospital operated for profit, the patient in her petition alleged that, as the result of fright and shock caused by the flying apart and "exploding" of a defective electric fan in the room occupied by her at the hospital, she suddenly jerked or jumped in bed, tearing out the sutures which had been inserted in an operation for "an abscessed fistula in ano." Her petition alleged further that, as a result of the defendant's negligence, there developed an infection at the site of the operation, a recurrence of the fistula necessitating further surgical treatment, and also a focal infection of her kidneys, known as Bright's disease, with associated impairment of her eyesight. The trial court dismissed her petition as not stating a cause of action but, on appeal, the court of appeals of Georgia, division 1, reversed the judgment of the trial court. In holding that the petition did state a cause of action, the court of appeals said that a hospital conducted for private gain owes its patients the duty of exercising in their behalf "such reasonable care and attention for their safety as their mental and physical condition if known may require."—*Garner v. Newnan Hospital (Ga.), 198 S. E. 122.*

Workmen's Compensation Acts: Incapacity Due to Tuberculosis Following Trauma.—The employee in this case had had tuberculosis for many years but, according to his petition, "it had caused him no trouble or discomfort." In the course of his employment in 1933 he fell against a ladder and, as a result, he claimed, his tubercular condition was activated to such an extent that, two years later, he became totally incapacitated. He filed a claim for compensation under the Texas workmen's compensation act which was disallowed by the industrial accident board. The district court on appeal entered a judgment in the employee's favor and the employer's insurer appealed to the court of civil appeals, Texas.

There was no evidence, the court said, to warrant the inference that the employee's tubercular condition was no longer active at the time of the accident. Since it was admitted that the employee had had active tuberculosis prior to the injury and that approximately two years after the injury he had "tuberculosis in a far advanced state," there existed a presumption that the disease had continued from long prior to the injury. When tuberculosis is authentically established, the court pointed out, it is presumed to continue until rebuttal evidence is produced, or an occasion arises for the application of a contrary presumption. The presumption to which the employee's own pleading and evidence gave rise, that is that he had active tuberculosis from long prior to his injury, was, the court said, rebuttable but there was no evidence tending to rebut the presumption. The testimony of one physician was supposed to have a bearing on this point and to be favorable to the employee. His testimony, however, was based on the assumption that at the time of the accident the employee "was strong and healthy." Such an assumption was unsupported by evidence. With the fact presumed against the employee that he had active tuberculosis at the inception of the injury, the conclusion seemed inescapable to the court that there was a total absence of evidence to raise an issue of the fact that but for the accidental injury the employee's incapacity from tuberculosis would not have resulted.

The court disclaimed any intention of holding that, if the employee already had active tuberculosis at the time of his injury, the fact that his subsequent incapacity resulted from tuberculosis would, as a matter of law, show that he had no right to compensation. On the contrary, the law was recognized to be that recovery of compensation will not be denied "although it may appear that the injury received was aggravated by the effect of some disease existing at the time of the injury or occurring afterwards." *Guzman* v. *Maryland Cas. Co.* 107 S. W. (2d) 357. The question before the court was one not of law but of the existence of evidence to warrant a particular finding. The employee had the burden of showing by a preponderance of the evidence that the incapacitating tuberculosis was a part of his accidental injury, which of course the tuberculosis he already had at the time of the injury was not. According to his testimony, it was "three or four months" after the accident that he noticed a little hacking cough. That was also after he had undergone a herniotomy. It was not even shown, the court pointed out, that the employee had not taken ether in connection with the herniotomy. There was simply no evidence that the court could find tending to differentiate disease which was no part of the alleged injury from disease which was a part of such injury. Every fact in evidence, the court concluded, which might indicate that the accident had any influence whatever on the preexisting disease seemed equally referable to the natural progress of the disease.

For the reasons stated, and for the further reason that the employee had failed, without legal excuse, timely to file his compensation claim, the judgment of the district court for the employee was reversed.—*Safety Casualty Co. v. Walls (Texas), 117 S. W. (2d) 879.*

Taxes: Validity of Municipal Occupational Tax.—The City of Tampa, Fla., in exercise of power granted to it by its charter to license professions, businesses and occupations, imposed by ordinance an annual license tax of $60 on physicians and certain other professions. Subsequently, a state statute was enacted imposing an annual state license tax of $10 on professional men and, except as otherwise provided or authorized by law, imposing an additional county tax of 50 per cent of the state tax and authorizing incorporated cities and towns to impose further license taxes not to exceed 50 per cent of the state tax. The state, on the relation of certain persons engaged in the practice of medicine, law and certain other professions in the city of Tampa, brought original proceedings in the Supreme Court of Florida for a writ of mandamus to require the city tax collector to issue occupational licenses to the relators on the payment of $5 each or 50 per cent of the $10 state license tax, claiming that the state statute prohibited the city from imposing any license tax on the practice of the several professions in excess of $5 per annum. The Supreme Court, however, held that the legislature, by enacting the state statute, had not intended to repeal the prior city ordinance imposing the municipal license tax of $60 passed pursuant to authority conferred by the city's charter. In the judgment of the court, the state statute was intended only to place a limit on license taxes in those municipalities not already authorized by law to impose a greater tax. Accordingly, the petition for a writ of mandamus was denied.—*State ex rel. Holloway et al. v. Keller (Fla.), 182 So. 779.*

Society Proceedings

COMING MEETINGS

American Association for Thoracic Surgery, Los Angeles, July 5-7. Dr. Richard H. Meade Jr., 2116 Pine St., Philadelphia, Secretary.

American Physiotherapy Association, Denver, June 25-30. Mrs. Eloise T. Landis, 2065 Adelbert Road, Cleveland, Secretary.

American Proctologic Society, Brooklyn, N. Y., June 25-27. Dr. Curtice Rosser, 710 Medical Arts Bldg., Dallas, Texas, Secretary.

Maine Medical Association, Poland Springs, June 25-27. Dr. F. R. Carter, 22 Arsenal St., Portland, Secretary.

Medical Library Association, Newark, N. J., June 27-29. Miss Janet Doe, 2 East 103d St., New York, Secretary.

Montana, Medical Association of, Butte, June 28-30. Dr. Thomas L. Hawkins, 50 North Main St., Helena, Secretary.

National Tuberculosis Association, Boston, June 26-29. Dr. Charles J. Hatfield, 50 West 50th Street, New York, Secretary.

Pacific Coast Oto-Ophthalmological Society, San Francisco, June 19-22. Dr. C. Allen Dickey, 450 Sutter St., San Francisco, Secretary.

West Virginia State Medical Association, White Sulphur Springs, July 10 12. Mr. Joe W. Savage, Public Library Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to members of the Association and to individual subscribers in continental United States and Canada for a period of three days. Three journals may be borrowed at a time. Periodicals are available from 1929 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 18 cents if three periodicals are requested). Periodicals published by the American Medical Association are not available for lending but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Journal of Surgery, New York

44: 1-336 (April) 1939. Partial Index

Varieties of Thrombophlebitis of the Limbs: Their Origin, Course and Treatment. J. Homans, Boston.—p. 3.

Surgical Treatment of Varicose Veins and Ulcers by Segmental Sclerosis, with Discussion of Effect on Peripheral Arterial Disease and General Circulation. G. H. Pratt, New York.—p. 31.

Diabetic Gangrene: Clinical Problem. L. S. McKittrick, Boston.—p. 46.

Problems of Pain Reference to Extremities: Their Diagnosis and Treatment. T. Fay, Philadelphia.—p. 52.

Nonoperative Procedures for Relief of Lumbosciatica. W. M. Steel, Philadelphia.—p. 76.

*Dashboard Fractures of Patella. C. F. Ferciot, Lincoln, Neb.—p. 139.

Role of Coracoclavicular Ligaments in Affections of Shoulder Girdle. F. Liberson, New York.—p. 145.

Cardiovascular Complications of Fracture. L. B. Laplace, Philadelphia.—p. 161.

Treatment of Fractures of Patella. J. A. Key, St. Louis.—p. 166.

Treatment of Acute Staphylococcic Suppurative Arthritis. R. L. Preston, New York.—p. 195.

Orthopedic Considerations in Treatment of Arthritis. W. T. Green, Boston.—p. 201.

Management of Postural Deformities of Lower Extremities. E. E. Myers, New York.—p. 232.

Tendon Transplantation in the Upper Extremity. A. Steindler, Iowa City.—p. 260.

Tenotomy, Its Indications and Technic. J. T. Rugh, Philadelphia.—p. 272.

The Place of the Biopsy in Diagnosis and Treatment of Tumors and Tumor-like Lesions of Extremities. L. W. Smith, Philadelphia.—p. 293.

Disturbances of Metatarsal Arch and Aid to Certain Static Foot Conditions. P. Lewin, Chicago.—p. 305.

Cutaneous Diseases of Extremities and Their Relation to Surgery. C. S. Wright and J. P. Guequierre, Philadelphia.—p. 322.

Dashboard Fractures of Patella.—After reviewing twenty-six cases of severe injury to the patella, Ferciot is impressed with the thought that the function of the patella in protecting the extensive articular cartilage of the lower end of the femur from direct trauma deserves more consideration than it has been accorded. Projecting forward as it does in the intercondylar space, the patella forms an excellent buffer mechanism for the knee joint, particularly in the flexed position. Without its protection, a large portion of the articular surface of the femur would be exposed to the insult of repeated injury. The fact that this bone exhibits extremely low reparative powers lends further credence to the impression that its function is largely protective and that it has been adapted to perform this function. If it possessed high osteogenic powers, the repeated trauma to which it is continually subjected would result in extensive proliferative changes, which would soon have a deleterious effect on the knee joint itself. In the present series twenty of the twenty-six cases could be traced. In six cases treated by external fixation the period of disability averaged 10.65 weeks. Of the six treated by open operation and fixation the average period of disability was 17.65 weeks. In the eight cases of comminuted fractures treated by excision and primary suture of the remaining fragment to the extensor apparatus, the average disability was 10.75 weeks. All of the six cases treated by casts alone had good functional results, of those treated by open reduction and fixation four had good results and two only fair, and of the eight cases of comminution treated by excision and primary suture all showed good end results. In no instance was it felt necessary to excise the entire patella, although in certain cases of severe comminution this procedure might be warranted. Proper after-care is of the utmost importance. The presence of the patella, although adding little to the mechanical efficiency of the knee, exerts a beneficial protecting influence and its preservation is urged whenever possible. Excision of fragmented portions of the bone, followed by suture of the extensor ligaments to the remaining fragment, retains this protective function and shortens the period of disability that follows dashboard fractures.

Archives of Internal Medicine, Chicago

63: 609-812 (April) 1939

*Tuberculosis of Tonsils: Its Incidence and Origin. E. R. Long, Mabel V. Seibert, Philadelphia, and L. M. Gonzalez, San Juan, Puerto Rico.—p. 609.

Chronic Progressive Occlusion of Inferior Vena Cava and Renal and Portal Veins, with Clinical Picture of the Nephrotic Syndrome: Report of Case, with Review of Literature. H. A. Derow, M. J. Schlesinger and H. A. Savitz, Boston.—p. 626.

Tense Pneumothorax: Treatment of Chronic and Recurrent Forms by Induction of Chemical Pleuritis. H. Hennell and M. F. Steinberg, New York.—p. 648.

*Sedimentation Rate and Nonfilament-Filament Ratio in Low Grade Chronic Illness: Statistical Analysis of 292 Cases. M. H. Stiles, Philadelphia.—p. 664.

Evaluation of Concentration of Serum Sulfate. E. G. Wakefield, M. H. Power and N. M. Keith, Rochester, Minn.—p. 679.

Masculinovoblastoma: Primary Masculinizing Tumor of the Ovary (So-Called Large Cell Variety—Hypernephroid—Luteoma). A. Rottino and J. F. McGrath, New York.—p. 686.

Precordial Lead: I. Findings for Patients with Normal Hearts and Those with Heart Disease Other Than Myocardial Infarction. R. W. Robinson, Worcester, Mass.; A. W. Contratto and S. A. Levine, Boston.—p. 711.

Id.: II. Findings for Patients with Myocardial Infarction. A. W. Contratto, Boston; R. W. Robinson, Worcester, Mass., and S. A. Levine, Boston.—p. 732.

*Effect of Benzedrine Sulfate on Gastric Emptying and Intestinal Activity. K. H. Beyer and W. J. Meek, Madison, Wis.—p. 752.

Nephrosis Due to Carbon Tetrachloride. H. Smetana, New York.—p. 760.

Liver and Biliary Tract: Review for 1938. C. H. Greene and R. Hotz, New York.—p. 778.

Tuberculosis of Tonsils.—Long and his associates examined microscopically for tuberculosis 2,000 unselected pairs of tonsils surgically removed. One half of these tonsils came from various Indian reservations, known to be communities of high tuberculosis morbidity; 600 from Puerto Rico, a region with much tuberculosis but of a lower morbidity than that of the Indian reservations, and 400 from Philadelphia, a community of low tuberculosis morbidity in comparison with the other two. Tuberculosis was found in eighty-one pairs of tonsils; that is tuberculous tonsils were found in 6.5 per cent of the tonsils from the Indian reservations, 2.5 per cent of those from Puerto Rico and 0.25 per cent of those from Philadelphia. Roentgenograms of the chest were secured in thirty-five of the eighty-one instances in which tonsillar tuberculosis was present. Active pulmonary tuberculosis of the adult type was found in sixteen and active tuberculosis of the childhood type in two. In general, the tonsillar lesions in this group were cryptal and were more extensive than those in the rest of the thirty-five cases; on the basis of pathologic appearance the tonsillar tuberculosis was believed to have resulted from direct infection by the bacilli contained in the sputum from the associated pulmonary lesion. All stages of regression of tonsillar tuberculosis from active fibroplastic disease to scars indistinguishable from scars of other origin were seen in the series. The relatively massive tuberculosis of the tonsils in cases of pulmonary tuberculosis, its tendency to be bilateral and its chronicity all point to repeated infection of the tonsils in the course of the pulmonary disease. There is reason to believe that at some time or other the majority of patients with progressive pulmonary tuberculosis, if not all of them, have tuberculosis of the tonsils.

Sedimentation Rate in Chronic Illness.—Stiles observed the sedimentation rate and nuclear count of 292 patients with chronic or frequently recurring symptoms which were suspected of being secondary to low grade chronic infection. Of this number 277 showed evidence of either chronic sinusitis or chronic nasopharyngitis. There were fifty-two patients with chronic bronchitis, seventy-five with symptoms referable to the biliary tract, seventy-eight with gastrointestinal conditions, thirty-six with symptoms referable to the urinary tract, forty with arthritis and thirty-six with "rheumatism." The mean sedimentation rate (Westergren) for all patients was 15.9 mm.; the mean nonfilament-filament ratio was 25.2. The mean sedimentation rate for women was higher than that for men, but there was no variation in the nonfilament-filament ratio. There were no

significant variations when the sedimentation rates and nonfilament-filament ratios were distributed according to age (the extremes in the patients examined were 2 and 80 years), except for a possibly significant increased sedimentation rate in the group of patients more than 60 years of age. When the changes found were distributed according to disease, there were only questionable variations, except for colitis (high nonfilament-filament ratio), duodenal ulcer (low sedimentation rate) and rheumatoid arthritis (high sedimentation rate and nonfilament-filament ratio). When the observations were distributed according to severity of symptoms, there was a direct relationship; as symptoms increased the sedimentation rate and nonfilament-filament ratio increased. When symptoms were more or less acutely exacerbated the nonfilament-filament ratio was high, but the sedimentation rate was relatively low. The nonfilament-filament ratio appears to be a more sensitive indicator of the presence of disease than the sedimentation rate, although the readiness of its response to acute exacerbation makes the finding of an increased sedimentation rate of more significance in the diagnosis of chronic illness than the finding of an increased nonfilament-filament ratio.

Amphetamine Sulfate and Gastrointestinal Activity.—Beyer and Meek present studies concerning the influence of amphetamine on the initial and final gastric emptying in ten medical students and evidence from animal experimentation on the manner in which this effect is produced. In man amphetamine sulfate was found to decrease the time for initial emptying of the stomach to about 42 per cent of the observed normal and to increase the average time for final emptying 21 per cent. The decrease in the initial emptying time of the normal stomach following administration of amphetamine is probably due to the primary increase in tonus and activity of the stomach raising intragastric pressure and forcing the contents through a pylorus the tonus of which, if altered by the drug, may relatively be only slightly increased, rhythmicity being correspondingly diminished. The delay in final emptying is due to secondary inhibition of the stomach and possibly increased pyloric tonus. While the stomach does not fully recover from the secondary inhibition for more than an hour, final emptying is not prolonged to a significant extent. Only by using excised intestinal strips and concentrations unapproachable in the normal animal could any effect of the drug on the intestine be demonstrated. The results suggest that what value amphetamine has in overcoming functional pylorospasm of a moderate degree is probably due to initial gastric stimulation overcoming pyloric resistance rather than to any direct inhibiting effect on pyloric tonus.

Archives of Neurology and Psychiatry, Chicago

41: 659-870 (April) 1939

Vascular System of the Human Spinal Cord. T. H. Suh and L. Alexander, Boston.—p. 659.
Sulcal and Intrinsic Blood Vessels of Human Spinal Cord. R. Y. Herren, Rochester, N. Y., and L. Alexander, Boston.—p. 678.
Foerster's Scheme of the Dermatomes. F. A. Fender, San Francisco. —p. 688.
Scapuloperoneal Amyotrophy. S. Davidenkow, Leningrad, Soviet Union. —p. 694.
*Treatment of Disturbed Patients with Sodium Chloride Orally and Intravenously in Hypertonic Solutions. K. M. Bowman and S. Keiser, New York—p. 702.
Art of Psychotic Persons: Restraint-Activity Index and Its Relation to Diagnosis. P. G. Schube and J. G. Cowell, Boston.—p. 711.
*Tremor: Physiologic Mechanism and Abolition by Surgical Means. P. C. Bucy and T. J. Case, Chicago.—p. 721.
*Picrotoxin as Convulsant in Treatment of Certain Mental Illnesses. A. A. Low, M. F. Blaurock, M. Sachs, C. Wade and E. Ross, Chicago. —p. 747.
Mental and Physical Growth in Pubertas Praecox: Report of Fifteen Years' Study of Case. A. Gesell, H. Thoms, F. B. Hartman and Helen Thompson, New Haven, Conn.—p. 755.
Chronic Progressive Degenerative Encephalopathy: Clinicopathologic Study of Unusual Case of Schilder's Disease. N. W. Winkelman and M. T. Moore, Philadelphia.—p. 773.
Facial Paralysis in Cephalic Tetanus. A. L. Watkins, Boston.—p. 788.
Rapidly Fatal Pontile Hemorrhage: Clinical and Anatomic Report. S. Környey, Szeged, Hungary.—p. 793.
Argyll Robertson Pupils in Alcoholism. M. Herman, New York.—p. 800.

Treatment of Disturbed Patients with Sodium Chloride.—By the use of sodium chloride, either by mouth or by intravenous injection of physiologic or hypertonic solutions and by forcing fluids, Bowman and Keiser have been able to decrease the death rate of excited and disturbed patients with mental disease. Patients with both organic and functional disturbances and alcoholic delirium were treated. This method of treatment also shortened the period of excitement. Fever due to dehydration was prevented or successfully treated by this method. In considering how to treat these patients, the authors decided that edema of the brain, which is present at times, should be disregarded and that treatment should be only for acidosis and dehydration. Fluids were forced and the patients were given 1 Gm. capsules of sodium chloride every four hours to help retain the fluids. Fluids were forced in the form of orange juice, with one tablespoonful of sucrose to each glassful. In a period of six months prior to this form of treatment there were ninety-two cases of alcoholic delirium, in sixteen of which death resulted from alcoholism. During the following eight months all alcoholic patients in the ward for disturbed patients were treated with capsules of sodium chloride and orange juice and of thirty-seven cases of delirium there were three deaths due to alcoholism. During the following four months the authors gave the treatment on alternating weeks to the alcoholic patients admitted. During the weeks when patients were not treated with sodium chloride they were subject to ward routine and fluids were forced. Among the treated patients there were no deaths, and of the untreated patients two died. In the untreated patients the average time required for the delirium to clear was six days during the first period of control and four days during the second period of control, whereas the treated patients required an average of 2.5 days. The authors' rationale for treatment with salts and fluids was based on the fact that the patients were suffering from systemic acidosis and dehydration. Patients fed by mouth instead of intravenously do better and there is no danger to the circulatory system; but, if patients remained uncooperative, medication was employed and the fluids were given through a Levine tube. The patients who recovered included those who were admitted with temperatures as high as 105 and 106 F. Of twenty-two patients with dehydration due to schizophrenia, manic-depressive psychosis and dementia paralytica not given the authors' treatment eight died, but of fourteen patients with similar conditions given two capsules of sodium chloride every four hours and physiologic solution of sodium chloride none died. The average duration of fever in these patients, on the basis of one reading a day, was 1.5 days. In another group of thirteen patients who had fever due to dehydration, the average duration of the fever was 1.7 days. Of these patients, eight had fever on admission and three had an elevation of temperature at one reading. Three of these patients died. One, with schizophrenia, had a temperature of 105 F. on admission. Another patient with schizophrenia was admitted with a temperature of 102 F. and died six days later. The third patient had dementia paralytica, with a temperature of 103 F. on the fifth day, and died two days later. Roentgenographic examination revealed extensive pneumonic consolidation of both lungs. Thus, by the use of sodium chloride there has been an abrupt drop in the duration of fever due to dehydration and a marked decrease in mortality due to exhaustion.

Abolition of Tremor by Surgical Means.—The demonstration by Aring and Fulton that intention tremor resulting from cerebellar lesions can be abolished in subhuman primates by the removal of the precentral cortex (areas 4 and 6 of Brodmann) led Bucy and Case to attempt to relieve a similar incapacitating tremor in a man. The much older observation that the tremor at rest in patients with parkinsonism is abolished, at least for the duration of the paralysis, by a temporary hemiplegia gave rise to the hope that the tremor at rest also present in this patient would be abolished by a precentral extirpation. Both the tremor at rest and that appearing on voluntary movement, which developed after severe cerebral trauma, were abolished (and has not returned after fifteen months) by removal of the precentral "arm" area.

Picrotoxin as Convulsant for Mental Illnesses.—In a group of thirty-eight patients (schizophrenia, manic-depressive psychosis and psychopathic personalities) Low and his colleagues produced convulsions by means of intravenous injections of picrotoxin. Because of the interval between the injection and the first convulsion and that between the first and subsequent convulsions the action of both the drug and the convulsions can

be conveniently studied. Picrotoxin does not produce the terror incidental to metrazol. Of the nineteen schizophrenic patients, with a long average duration of the disease, five made a full recovery. As with metrazol medication, the manic-depressive attack in eight cases was cut short with relative promptness and the severe psychoneuroses of seven patients responded satisfactorily. Of the four patients with disturbed behavior requiring commitment, two recovered fully and one had a social recovery. Of the total of eighteen fully or socially recovered patients, three have maintained their health for five months, seven for four months, three for three months and five for less than three months; none have relapsed to date.

Archives of Otolaryngology, Chicago

29: 605-750 (April) 1939

Otitis Media and Mastoiditis Simulating Thrombophlebitis of the Lateral Sinus. M. S. Ersner, Philadelphia.—p. 605.
Hearing Aids. H. Newhart and H. E. Hartig, Minneapolis.—p. 614.
Objective Measurement of Hearing. M. Unger, New York.—p. 621.
Surgical Management of Otogenous Abscess of the Brain. L. J. Adelstein, Los Angeles.—p. 624.
Anatomy of the Opening of the Maxillary Sinus. E. Simon, Albany, N. Y.—p. 640.
Xanthomatosis: IV. Lipoid Proteinosis (Phosphatide Lipoidosis). H. Montgomery and F. Z. Havens, Rochester, Minn.—p. 650.
Technic of Laryngofissure for Cancer of the Larynx. M. C. Myerson, New York.—p. 662.
Thrombosis of the Lateral Sinus. C. C. Cody Jr., Houston, Texas.—p. 674.
Rhinoscleroma: Report of Case. C. F. Gadomski, Elizabeth, N. J.—p. 681.
Supernumerary External Ears. M. J. Costello, New York, and J. H. Shepard, Columbus, Ohio.—p. 695.
Modified Technic of Ivory Implantation for Ozena: Report of Six Cases. J. P. Kasnetz, Brooklyn.—p. 699.
*Controlled Study of "Cold Vaccines." I. J. Hauser and M. J. Hauser, Detroit.—p. 704.
Peroral Endoscopy. L. H. Clerf and F. J. Putney, Philadelphia.—p. 720.

"Cold Vaccines."—In their controlled study of the value of "cold vaccines" the Hausers gave cold vaccine subcutaneously to the first ten persons, intradermally to the next ten and placebos to the following ten. This cycle was repeated until there were 100 persons in each group. After this number was reached the vaccine was given subcutaneously to the next hundred who presented themselves at the clinic for treatment. The first injections were given during the third week in October and the last ones by the middle of December. During the last two weeks in May each student who had received the injections was interviewed, provided he had completed the series. Data were obtained from 188 persons who had received the vaccine subcutaneously, from ninety-five who had received it intradermally and from eighty-six to whom placebos had been given. Of the persons who had received the vaccine subcutaneously, 74 per cent said that they had had fewer colds, 6 per cent that they had no colds at all, 18 per cent that they had the same number as during the preceding year and 2 per cent that they had more colds. Of those who had received the vaccine intradermally, 52.6 per cent reported that they had had fewer colds, 11.6 per cent that they had no colds at all, 32.6 per cent that they had the same number as before and 3.2 per cent that they had more colds. Among those who had received placebos, 60.5 per cent reported that they had had fewer colds, 5.8 per cent that they had no colds at all, 31.4 per cent that they had the same number as the last year and 2.3 per cent that they had more colds. More than 90 per cent of all the subjects expressed a desire to be similarly treated the following year.

California and Western Medicine, San Francisco

50: 249-320 (April) 1939

Urinary Tract Infections: From a General Practice Standpoint. H. C. Bumpus Jr., Pasadena.—p. 254.
Tissue Changes in Chronic Intoxication of Barbitals. T. L. Schulte, San Francisco.—p. 256.
Varicose Veins in Pregnancy. A. M. McCausland, Los Angeles.—p. 258.
Preventorium Child. H. G. Trimble, Oakland.—p. 262.
Scabies: Its Treatment with Benzoyl Benzoate, as Compared with Sodium Thiosulfate Plus Hydrochloric Acid. A. E. Ingels, San Francisco.—p. 265.
Roentgen Diagnosis of Diseases of Ileocecal Region of the Gastrointestinal Tract. J. Jellen, Los Angeles.—p. 267.
Vitamin Deficiency States: Their Recognition and Treatment. D. L. Wilbur, San Francisco.—p. 270.

Canadian Medical Association Journal, Montreal

40: 319-422 (April) 1939

*Comparative Chemotherapy in Experimental Pneumococcic Infections. P. H. Greey, D. B. MacLaren and C. C. Lucas, Toronto.—p. 319.
Treatment of Pneumococcic Pneumonia with Dagenan (Sulfapyridine). D. Graham, W. P. Warner, J. A. Dauphinee and R. C. Dickson, Toronto.—p. 325.
Treatment of Pneumococcic Pneumonia with Sulfapyridine. J. C. Meakins and F. R. Hanson, Montreal.—p. 333.
*Sulfanilamide in Treatment of Cystitis and Pyelitis. D. R. Mitchell, P. H. Greey and C. C. Lucas, Toronto.—p. 336.
Roentgenology of Heart and Great Vessels. J. H. Palmer, Montreal.—p. 343.
Xanthine Calculosis: Case. M. Ratner and A. Strasberg, Montreal.—p. 350.
Single Myeloid Bone Tumor Associated with Blood Picture of Chronic Myelocytic Leukemia. S. R. Townsend, Montreal.—p. 352.
Acute Hemorrhagic Nephritis: Report of Case. L. C. Montgomery, Montreal.—p. 355.
Medical Treatment of Duodenal Ulcer. J. Daly, Toronto.—p. 360.
Lumbar Anesthesia in Obstetrics. R. J. Fraser, Hamilton, Ont.—p. 368.
Unrecognized Hypothyroidism. G. K. Wharton, London, Ont.—p. 371.
Chorionepithelioma Following Ectopic Gestation. W. A. Dafoe, Toronto.—p. 376.
Caution in Arsphenamine Therapy: Report of Case of Purpura Haemorrhagica Following Treatment with Neoarsphenamine. G. B. Sexton, London, Ont.—p. 378.
Ureteral Calculus: Clinical Analysis of 200 Cases. C. A. Chisholm, Kirkland Lake, Ont.—p. 380.
Chronic Prostatitis (Nonspecific). E. R. Hall, Vancouver.—p. 382.

Sulfanilamide in Experimental Pneumococcic Infections.—Greey and his associates found sulfapyridine superior to three other sulfanilamide compounds in experimental type I pneumococcic infections in mice. A high survival rate was obtained in such infections with sulfapyridine when it was administered so as to maintain the blood concentration of the drug above 10 mg. per hundred cubic centimeters. Sulfapyridine is at least as active as sulfanilamide in experimental Streptococcus haemolyticus infections in mice. Signs of toxicity were not observed in the mice treated with sulfapyridine but were seen in those treated with two other sulfanilamide compounds.

Sulfanilamide for Cystitis and Pyelitis.—With sulfanilamide in the treatment of cystitis and pyelitis Mitchell and his colleagues obtained results that were unexcelled by any drug used previously in their clinic. They evolved a method of administration which is particularly suited to infections of the urinary tract. The regimen has proved highly satisfactory in treating pyelitis of pregnancy. Patients are given the following simple instructions: (1) to take one tablet (5 grains) after each meal on the first day, two after each meal on the second, three after each meal on the third day and, if necessary, four after each meal on the fourth day, (2) to limit their total fluid intake to the equivalent of about eight glasses of water a day and (3) to void into a clear glass receptacle, to examine the urine for turbidity and as soon as a clear urine is obtained to notify their physician. To prevent relapse, the drug is withdrawn slowly; after four days on the curative dose the total daily intake of sulfanilamide is decreased by 5 grains (0.3 Gm.) every other day until a daily dose of 10 grains (0.6 Gm.) is reached. This dosage is continued for from seven to ten days. This minimal effective step-dosage regimen, the authors state, nearly always produces a sterile urine within from two to four days, provided the infection is not complicated by malformation, neoplasm or stone in the urinary tract. The organisms which respond most readily to sulfanilamide are Bacillus coli, Bacillus proteus and staphylococci. Fecal streptococci are completely resistant. Toxic effects are less frequent and are usually of milder form on the dosage recommended than on other regimens which have been tried.

Connecticut State Medical Society Journal, Hartford

3: 155-208 (April) 1939

Surgery in Pulmonary Disease. E. D. Churchill, Boston.—p. 155.
Anesthesia for Surgery in the Open Chest. H. K. Beecher, Boston.—p. 158.
Indications for Collapse Therapy in Tuberculosis. H. B. Campbell, Norwich.—p. 160.
Bronchoscopy. N. Canfield, New Haven.—p. 162.
Treatment of Pruritus Ani. E. H. Kirschbaum, Waterbury.—p. 165.
Brenner Tumors. L. L. Walton, Hartford.—p. 166.
Acute Coronary Failure. P. J. Steincrohn, Hartford.—p. 169.

Florida Medical Association Journal, Jacksonville

25: 477-536 (April) 1939

Agranulocytosis and Sulfanilamide. N. L. Marcus, Tampa.—p. 489.
Obstetric Oddities Occurring in a Single Patient: Case Report. W. C. Roberts, Panama City.—p. 497.
Treatment of Traumatisms of Chest. H. Watson and J. W. Annis, Lakeland.—p. 500.
Cardiology in Aviation: The Cardiac Patient and Air Travel. A. J. Bieker, St. Petersburg.—p. 503.

Indiana State Medical Assn. Journal, Indianapolis

32: 165-232 (April) 1939

Cancer of Breast. F. E. Adair, New York.—p. 165.
Modern Concepts in Treatment of Cancer. L. G. Ericksen, South Bend.—p. 167.
Surgical Treatment of Cancer of Pelvic Colon. M. N. Hadley, Indianapolis.—p. 172.
Cancer of Stomach. E. E. Padgett, Indianapolis.—p. 176.
Indianapolis City Hospital Cancer Clinic. J. W. Hofmann, Indianapolis.—p. 178.
*Cyclopropane: Résumé of Personal Experience. C. N. Combs, Terre Haute.—p. 181.
Nontuberculous Urinary Infections in Children. H. O. Mertz, Indianapolis.—p. 185.
Report of Native Case of Infection by the Fish Tapeworm, Diphyllobothrium Latum. W. H. Headlee, J. M. Kmecza and R. M. Cable, Lafayette.—p. 188.
Communicable Diseases. Indiana Pediatric Society.—p. 190.
Some Observations on the Plan for the Establishment of District Health Units by the State Board of Health. J. H. Crowder, Sullivan.—p. 193.
Edward Jenner: A Great Experimenter. W. N. Wishard Jr., Indianapolis.—p. 196.

Cyclopropane.—During 1937 and 1938 Combs gave 700 anesthetics using cyclopropane; 302 were for laparotomies and 398 for extraperitoneal operations. In these 700 anesthesias there was an absence of sweating with a reduction in the loss of water vapor, necessitating fewer subcutaneous injections of fluid. It is superior to nitrous oxide in that it produces no subjective symptoms such as hallucinations or tinnitus aurium.

Journal of Bacteriology, Baltimore

37: 355-472 (April) 1939

Lactase Activity of Escherichia Coli-Mutabile. C. J. Deere, Anna Dean Dulaney and I. D. Michelson, Memphis, Tenn.—p. 355.
Note on Monophasic Nonspecific Salmonella Types. D. W. Bruner and P. R. Edwards, Lexington, Ky.—p. 365.
Productivity of Mediums Containing Milk for Recently Isolated Strains of Coliform Group. M. T. Bartram and L. A. Black, College Park, Md.—p. 371.
Chemical Factors Influencing Growth of Tubercle Bacilli: I. Metal Catalysts. B. C. Sher and H. C. Sweany, Chicago.—p. 377.
Immunologic Relationships of Polysaccharides of Mucoid Organisms of the Typhoid-Salmonella Group. H. R. Morgan and T. D. Beckwith, Los Angeles.—p. 389.
*Meningitis Caused by Atypical Gram-Negative Cocci. H. A. Reimann, Philadelphia, and R. W. Koucky, Minneapolis.—p. 401.
Improved Method for Testing Antiseptic Dusting Powders. J. H. Brewer, Baltimore.—p. 411.
Pattern of Dissociation in Haemophilus Influenzae. Caroline A. Chandler, L. D. Fothergill and J. H. Dingle, with technical assistance of Margaret S. McMillan, Boston.—p. 415.
Nutritional Requirements of Clostridium Parabotulinum, A. S. S. Elberg and K. F. Meyer, San Francisco.—p. 429.
Lethal Action of Short Ultraviolet Rays on Several Common Pathogenic Bacteria. D. G. Sharp, Durham, N. C.—p. 447.
Precipitins for Tuberculin Proteins of Acid-Fast Bacteria. Janet McCarter, Elizabeth M. Kanne and E. G. Hastings, Madison, Wis.—p. 461.

Meningitis Caused by Atypical Gram-Negative Cocci.—Reimann and Koucky studied the atypical bacteria found in two cases of meningitis. From the first patient, a gram-negative diplococcus with characteristics different from other classified strains was isolated. The bacterium gave rise to two interchangeable colony forms. From the second case, two species of cocci were obtained; one was a type I meningococcus which had the unusual ability to grow on plain agar at room temperature and had gram-positive elements; the other was a staphylococcus which was represented by three interchangeable colony forms. These studies suggest that, under ordinary laboratory routine examination, atypical colonies may appear on culture plates. Such colonies, usually ignored or dismissed as contaminants, may actually be part of the pattern of variation of the bacterium concerned. Recognition of the phenomenon of bacterial variation and type transformation would remove much confusion and would probably reduce the varieties of bacteria now believed to exist.

Journal of Infectious Diseases, Chicago

64: 97-192 (March-April) 1939

*The Blood Stream in Experimental Poliomyelitis. F. B. Gordon and E. H. Lennette, Chicago.—p. 97.
Cultivation of Vaccinia Virus in Deep Columns of Maitland Medium. R. L. Thompson and Margaret S. Coates, Cleveland.—p. 105.
O Resistance of Vi Strains. A. W. Pot, Utrecht, Holland.—p. 110.
Experimental Infection in the Mouse Produced by Intratracheal Inoculation with Atypical Pertussis Organism. W. L. Bradford and Mary Wold, Rochester, N. Y.—p. 118.
Resistance of Avian Tubercle Bacilli to Low Temperatures, with Especial Reference to Multiple Changes in Temperature. P. Kyes and T. S. Potter, Chicago.—p. 123.
Studies on Listerella Infection in Sheep. H. E. Biester and L. H. Schwarte, Ames, Iowa.—p. 135.
Nutritive Requirements of Salmonellas: I. Tryptophan and Growth of Typhoid Bacillus. W. Burrows, Chicago.—p. 145.
Cellular Reactions in Skin, Lungs and Intestine of Normal and Immune Rats After Infection with Nippostrongylus Muris. W. H. Taliaferro and M. P. Sarles, Chicago.—p. 157.

The Blood in Experimental Poliomyelitis.—Gordon and Lennette tested the blood of monkeys at various stages of experimental poliomyelitis for the presence of virus. This was accomplished by multiple transfusions of blood from inoculated monkeys into normal monkeys, the latter also receiving starch solution intracerebrally. The intracerebral injection of starch has been shown to disrupt the blood-brain barrier and to facilitate infection. Tests for immunity were subsequently done on the recipient monkeys. Virus was not demonstrated in fourteen samples of blood, ranging in volume from 10 to 45 cc., taken from paralyzed monkeys, or in twenty-eight samples, from 8 to 30 cc. in volume, from infected monkeys before paralysis appeared. Repeated intranasal inoculation of seven monkeys after destruction of their olfactory bulbs did not result in a clinical attack of poliomyelitis, in the appearance of virus in the blood or in a detectable immunologic response. No evidence, therefore, was found for the absorption of virus by the blood stream or by other routes from the nasal or alimentary mucosa. The results indicate that poliomyelitis virus either does not enter the blood stream of intranasally inoculated monkeys or it does so in amounts too small to be detected by the methods employed.

Journal of Investigative Dermatology, Baltimore

2: 43-80 (April) 1939

*Photoallergy and Primary Photosensitivity to Sulfanilamide. S. Epstein, Marshfield, Wis.—p. 43.
Cutaneous Hypersensitivity to the Procaine Anesthetics: Correlation of Hypersensitivity with Chemical Structure. M. H. Goodman, Baltimore.—p. 53.
Measurement of *p*H of the Skin Surface: I. Technic. I. H. Blank, Boston.—p. 67.
Id.: II. *p*H of Exposed Surfaces of Adults with No Apparent Skin Lesions. I. H. Blank, Boston.—p. 75.

Photoallergy, Photosensitivity and Sulfanilamide.—Epstein carried out experiments with sulfanilamide, as a photosensitizing drug, on five volunteers and himself. He found that sulfanilamide produces a primary photosensitivity at the site of intracutaneous injection. The injection of sulfanilamide followed by an erythema dose of ultraviolet rays produced in all (twenty-two) an erythematous reaction of from about 0.8 to 1 cm. in diameter, contrasting with the milder erythema of the surrounding skin. This reaction appeared after from one to twenty-four hours, persisted for several days and led eventually to pigmentation. A different type of reaction appeared in two of the test persons on the tenth day. At this time an inflammatory, urticarial reaction with intense pruritus developed spontaneously at the site of the primary reaction. This latter reaction was considerably larger than the original response but of similar configuration. It persisted from ten to fourteen days. This reaction was quite obviously entirely different from the primary one. Every subsequent experiment in the two sensitized persons produced a spontaneous inflammatory-urticarial response, but now this appeared not ten days but from ten to twenty-four hours after the test. The experiments demonstrate a true allergic type of photosensitivity (photoallergy). The author believes that this is the first report of this particular type of photosensitization and the first experimental proof of the allergic nature of this form of light sensitivity. More experimental work will be necessary to clarify the relationship of this form of response to various forms of clinical hypersensitivity to light. The photoallergic reaction fulfils

the requirements of a true allergic phenomenon; the capacity to react is produced by a previous contact and is manifested, after a definite incubation period, by an altered and accelerated reaction to a subsequent exposure to the same agents; that is, sulfanilamide plus light. The irradiation of sulfanilamide in the skin produces a substance responsible for the appearance of the primary reaction. Following this reaction, the skin of certain predisposed persons becomes sensitized to this substance.

Journal of Lab. and Clinical Medicine, St. Louis

24: 669-778 (April) 1939. Partial Index

Blood Glutathione in Hematologic Diseases. E. V. Kandel and G. V. LeRoy, Chicago.—p. 669.
"Average Daily Reticulocyte Response" During Therapy in Pernicious Anemia. A. Friedman, R. Isaacs and Anne Lufkin, Ann Arbor, Mich.—p. 677.
Pharmacologic Antagonism of Metrazol and Sodium Amytal as Seen in Human Individuals (Schizophrenic Patients). L. H. Cohen, Worcester, Mass.—p. 681.
Lipid Changes in Nerve Degeneration in Avitaminosis A: Lipids of Sciatic Nerve in Avitaminosis A. R. Reiser, Durham, N. C.—p. 701.
*Metastatic Bone Carcinomatosis Associated with Parathyroid Hyperplasia and with Symptoms of Hyperparathyroidism, with Blood Calcium and Phosphorus Studies Before and After Extirpation of a Hyperplastic Parathyroid Gland. S. Ben-Asher, Jersey City, N. J.—p. 709.
The Reversal of Kidney Volume Response Accompanying Abolition of the Central Nervous System. E. C. Mason and P. Hitchcock, Oklahoma City.—p. 717.
*Effects of Smoking on Blood Sugar and Peripheral Temperatures of Convalescents. H. B. Cates and J. G. Giovanaszzi, Los Angeles.—p. 729.
Unreliability of Oxalated Blood in Determination of Erythrocyte Sedimentation Rate. S. Berg, Newark, N. J.—p. 757.
Laboratory Methods for Testing Fungicides Used in the Treatment of Epidermophytosis. Ella M. Burlingame and G. F. Reddish, St. Louis.—p. 765.

Metastatic Bone Carcinomatosis.—Ben-Asher cites a case with definite bone metastases associated with parathyroid hyperplasia and with symptoms of hyperparathyroidism. Hypercalcemia was associated with metastatic carcinoma of the bones and with parathyroid hyperplasia. Removal of the hyperplastic parathyroid gland did not reduce the serum calcium to normal, but the calcium level was somewhat lower than before the operation. Lowering of the serum calcium was observed ten days after operation and lasted for about ten weeks, after which there was a slight rise. It seems reasonable to assume that both the osseous destruction and the hyperplasia may have been factors in producing the hypercalcemia, and, as Barr and Bulger suggest, the osseous changes may have stimulated the parathyroid, which in turn aggravated the condition. Failure to find another pathologic parathyroid at a second operation does not eliminate the possibility of an abnormally situated one, which would account for the persistence of the hypercalcemia. The author states that the hyperplasia in his case was secondary to the osseous changes. Since removal of the gland resulted in a somewhat lower level of the blood calcium, it is reasonable to conclude that the gland showed evidence of hyperfunction. This would support the theory of Erdheim of compensatory hyperplasia. Compensatory hyperplasia has been found in conditions associated with low serum calcium, such as rickets and osteomalacia, and also in conditions in which the serum calcium is high. Further studies of the physiology of the parathyroids might throw more light on the subject.

Effects of Smoking on Blood Sugar and Temperature.—On the basis of their observations (six healthy students, eleven hypertensive patients and eighteen patients from the medical ward with cardiac decompensation or other diseases), Cates and Giovanaszzi conclude that smoking affects the peripheral vascular system less in cardiac convalescents than in young healthy men who have not been confined to bed. The older the subject, the less susceptible is his vascular tone. Results obtained in subjects in their second and third decades of life may not by inference be applied to the later decades. The hypertensive group of patients, while smoking, showed no greater variation of cutaneous temperature than occurred during the preceding control period of forty-five minutes. In this group, the highest blood pressure rise was 15 mm., the average 8 mm. In the student group the highest was 35 mm. and the average rise was 19 mm. The third group gave a negative temperature response. Of twenty-four studies only four had a temperature decrease of the toes of more than 1.5 C. Two of twelve had depressed finger temperatures. A composite curve representing twenty-six curves of capillary blood sugar determinations on twenty subjects establishes no elevation of the fasting dextrose values after smoking from two to five cigarets. Artificial elevation of the blood sugars by intravenous injection of 50 cc. of a 50 per cent dextrose solution likewise had no effect on the peripheral temperature.

Journal of Nutrition, Philadelphia

17: 199-302 (March) 1939. Partial Index

Calcium Requirements of Five Preschool Girls. Julia Outhouse, Gladys Kinsman, Dorothy Sheldon, Irene Twomey, Janice Smith and H. H. Mitchell, Urbana, Ill.—p. 199.
Utilization of Carbohydrate in Human Undernutrition. Margaret Woodwell Johnston, J. M. Sheldon and L. H. Newburgh, Ann Arbor, Mich.—p. 213.
Chondroitin Sulfuric Acid as a Growth Factor. H. E. Robinson, R. E. Gray, F. F. Chesley and L. A. Crandall, Chicago.—p. 227.
*Calcium Requirement of Adult Man and Utilization of Calcium in Milk and in Calcium Gluconate. F. R. Steggerda and H. H. Mitchell, Urbana, Ill.—p. 253.
Distribution of Vitamin B_1 (Thiamin) in Meat and Meat Products. O. Mickelsen, H. A. Waisman and C. A. Elvehjem, Madison, Wis.—p. 269.

17: 303-406 (April) 1939

Quantitative Biologic Assay of Vitamin K. S. Ansbacher, New Brunswick, N. J.—p. 303.
Experimental Determination of Minimal Vitamin A Requirements of Normal Adults. Lela E. Booher, Elizabeth Crofts Callison and Elizabeth M. Hewston, Washington, D. C.—p. 317.
Fluorosis in Rats Due to Contamination with Fluorine of Commercial Casein: Effects of Darkness and of Controlled Radiation on Pathology of Teeth. H. C. Hodge, Ethel M. Luce-Clausen and Elizabeth F. Brown, Rochester, N. Y.—p. 333.
Effect of Protein and Exercise at Different Ages on Total Energy Metabolism. A. Black and J. R. Murlin, Rochester, N. Y.—p. 347.
Effect of Protein and Exercise at Different Ages on Basal Metabolism. A. Black, Rochester, N. Y.—p. 361.
Preventive Effect of Wheat Germ Oils and of α-Tocopherol in Nutritional Muscular Dystrophy of Young Rats. Marianne Goettsch and Johana Ritzmann, New York.—p. 371.
Electrolyte and Nitrogen Metabolism in Pregnancy. H. E. Thompson Jr. and W. T. Pommerenke, Rochester, N. Y.—p. 383.
Quantitative Study by Means of Spectrographic Analysis of Aluminum in Nutrition. Florence I. Scoular, Iowa City.—p. 393.

Calcium Requirement and Its Utilization.—Steggerda and Mitchell observed the calcium balance of an adult receiving a basal low-calcium diet with varying supplements of calcium in milk solids and in calcium gluconate for forty-three four day periods. They found that for equilibrium 9.2 mg. of calcium per kilogram of body weight was required daily, about three fourths of which was supplied either in milk solids or in calcium gluconate. The calcium in these two forms was equally well utilized, but only to the extent of 20 per cent.

Journal of Pediatrics, St. Louis

14: 417-558 (April) 1939

Use of Sulfapyridine in Primary Pneumococcic Pneumonia and in Pneumococcic Pneumonia Associated with Measles. H. L. Hodes, W. C. Stifler Jr., Ethel Walker, M. McCarty and R. G. Shirley, Baltimore.—p. 417.
*Blood Studies of Vitamin C During Pregnancy, Birth and Early Infancy. C. E. Snelling and S. H. Jackson, Toronto.—p. 447.
*Treatment of Cryptorchidism with Gonadotropic Substance. C. Zelson, New York.—p. 452.
Congenital Familial Steatorrhea with Fibromatosis of Pancreas and Bronchiolectasis. S. Rauch, A. M. Litvak and M. Steiner, Brooklyn.—p. 462.
*Treatment of Rickets and Tetany with Single Massive Dose of Vitamin D: Vitamin D Shock Therapy. H. Vollmer, New York.—p. 491.
Treatment of Early Measles with Parental Whole Blood: Effect on Clinical Course and Pulmonary Complications in Young Children. J. L. Kohn, A. E. Fischer, New York, and H. U. Resch, Bloomfield, N. J.—p. 502.
Waterhouse-Friderichsen Syndrome: Report of Case with Autopsy Findings. S. A. Levinson, Chicago.—p. 506.
Saw-Tooth Fever Pneumonia. B. Hamilton, Chicago.—p. 517.
Calcified Hematoma. F. Weitz and R. A. Strong, New Orleans.—p. 522.
Syndrome of Constricting Double Aortic Arch in Infancy: Report of Case. I. J. Wolman, Philadelphia.—p. 527.

Vitamin C in Blood During Pregnancy, Birth and Infancy.—Snelling and Jackson measured the ascorbic acid content of the plasma of pregnant women. There seems to be a slight fall toward the end of pregnancy. Factors incident to labor lower the ascorbic acid in the maternal blood. The fetus acts as a parasite and has higher levels than the antepartum

maternal blood. Totally breast-fed infants are well supplied with vitamin C if the ascorbic acid of the breast milk is greater than 4 mg. per hundred cubic centimeters; if the ascorbic acid is below 2 mg. there is a likelihood of a deficiency in the infant. In artificially fed infants not receiving additional vitamin C, the level of ascorbic acid in the blood is low. It is recommended that artificially fed infants should receive additional vitamin C from the time they are 2 weeks of age. The mothers of breast-fed infants should have adequate vitamin C in the diet, and, if there is any question of lack in her diet, the infant should receive additional vitamin C.

Treatment of Cryptorchidism with Gonadotropic Substance.—Zelson states that his work on the treatment of cryptorchidism with gonadotropic substance gives less favorable results, but he feels that his observations, based on rigid criteria, represent a true figure of the best possible results obtainable in carefully selected cases of true cryptorchidism. Only children more than 4 years of age were treated. Twenty-six boys with thirty-four undescended testicles were given the gonadotropic hormone. In eighteen the condition was unilateral. Following treatment, complete descent occurred in eight boys, 31 per cent. Of these cases five were unilateral and three bilateral. The condition was considered as having successfully responded to treatment only when the testicles descended into the scrotum. In the eight successful cases five of the patients responded to less than 5,000 units; six of them responded to treatment within three months. The penis, testicles and scrotum became larger during the course of treatment in every case. Pubic hair developed in a few. On reexamination of the unsuccessful cases, from three to six months after the cessation of treatment, the testicles that had enlarged during treatment had shrunk back to their original pretreatment size. The penis continued to remain large. During the course of the treatment, seven of the twenty-six boys were reported as being "bad boys" in school. When the injections were discontinued, however, this situation improved. Six of the eight successful results were in boys less than 10 years of age. Therefore it appears that treatment should be seriously considered in the earlier age groups despite the prevailing opinion that it should be deferred until the age of 10 or 11.

Massive Vitamin D for Rickets and Tetany.—According to Vollmer, the curative effect of a single shock dose (600,000 international units) of vitamin D orally is more prompt than that obtained by small daily doses. Tetanic convulsions did not recur in 150 children after vitamin D shock therapy, and all other symptoms of hyperirritability usually disappeared within two days. If hypernormal values of serum phosphorus occur after vitamin D shock therapy, they usually decline to a normal level in from two to four weeks. Vitamin D shock therapy is indicated in neonatal and infantile tetany, severe rickets, rickets associated with pneumonia or pertussis, rickets associated with chronic infections and in a rachitic or tetanic child whose parents are indifferent to his condition. No contraindication seems to exist. No toxicity was manifested in the 150 children treated with massive doses of vitamin D. The possibility of a successful vitamin D prophylaxis over the entire winter period with a single dose is discussed.

Journal of Urology, Baltimore

41: 435-652 (April) 1939. Partial Index

Relations Between Endocrinology and Urology. D. L. Thomson, Montreal.—p. 435.
New Etiology for Certain Types of Dilated Ureters in Children. V. Vermooten, Johannesburg, South Africa.—p. 455.
Transplantation of Ureters in Infants. C. C. Higgins, Cleveland.—p. 464.
New Anatomic Approach in Perineal Prostatectomy. E. Belt, C. E. Ebert and A. C. Surber Jr., Los Angeles.—p. 482.
Associated Pathologic Conditions of Bladder in Cases of Prostatic Obstruction. G. C. Prather and M. Reich, Boston.—p. 498.
Preoperative Prostatic Mortality. W. J. Engel, Cleveland.—p. 505.
Urologic Complications in Malignant Disease of Rectum. C. J. E. Kickham and N. H. Bruce, Boston.—p. 541.
Metastases from Tumors of the Testis. D. W. MacKenzie and M. Ratner, Montreal.—p. 592.
Mandelic Acid Therapy: Action of Enteric Coated Tablets of Mandelic Acid (as Monoethanolamine Mandelate) and Ammonium Chloride. E. Rupel and R. C. Travis, Indianapolis.—p. 622.
Pentothal Sodium Intravenous Anesthesia in Urology. C. R. O'Crowley and A. G. Chmelnik, Newark, N. J.—p. 649.

Laryngoscope, St. Louis

49: 135-238 (March) 1939

Progressive Deafness, Otosclerosis and Closely Related Subjects: Abstract of the Available Literature Published During the Year 1938. J. A. Babbitt, Philadelphia.—p. 135.
Applied Biochemistry in Etiology and Treatment of Clinical Conditions of Nasal Accessory Sinuses. D. C. Jarvis, Barre, Vt.—p. 186.
Pharyngeal Bursae (Thornwaldt's Bursae): Report of Sixty-Four Cases. W. W. Eagle, Durham, N. C.—p. 199.
Acute Pseudomembranous Infections Involving the Eye, Mouth, Throat and Urethra. A. F. Laszlo, New York.—p. 208.
Nystagmus: Some Observations Based on Electrical Method for Recording Eye Movements. H. B. Perlman and T. J. Case, Chicago.—p. 217.

Maine Medical Association Journal, Portland

30: 69-90 (April) 1939

Communicable Disease Hospitals. D. L. Richardson, Providence, R. I.—p. 69.
*Syphilitic Epilepsies (Their Frequency and Treatment). L. Babalian, Portland.—p. 75.
May Day as a Child Health Day. R. E. Jewett, Augusta.—p. 77.

Syphilitic Epilepsies.—Babalian states that syphilitic epilepsy is not as rare as the majority of authors believe. Hereditary syphilis seems to be a frequent cause of epilepsy and should be sought by every kind of examination, especially by a complete family inquiry. However, in many cases traces of syphilis cannot be discovered; but its possibility must not be ignored. If one considers the dark future of many epileptic persons, one has the right to try a specific treatment in all these cases, because it is better to sin in this instance by commission than by omission. Specific treatment can be effective only at the outset of the disease before the appearance of neurogliac sclerosis. Epilepsy, then, must be treated not when it is evident clinically but in its prodromic stage. This stage, in child epilepsy, is precisely that of the first convulsions in infancy, after which the convulsions cease and are followed generally by a period of deceiving calm. It is too late to give treatment if after several months or even years the first signs of epilepsy appear. The ideal course would be to give specific treatment as soon as the convulsions of infancy occur. However, specific treatment should not be given all persons with convulsions. The cases due to obstetric cranial injuries and those due to toxic infectious diseases must be eliminated. In a certain number of cases in which the nature of convulsions cannot be determined exactly the author believes that one has the right to and should give specific treatment. The problem takes a different form when epilepsy has become evident because of an irreparable lesion. Specific treatment should, however, be tried, less with the hope to improve the disease than to limit the damages. In that case it seems prudent to use only bismuth or mercury, because arsenic, being a strong vasodilator, could precipitate epileptic seizures or even congestive and hemorrhagic lesions in the central nervous system—lesions which epilepsy already tends to produce.

Mental Hygiene, Albany, N. Y.

23: 177-352 (April) 1939

Relationship of Psychiatry to Internal Medicine. L. Hamman, Baltimore.—p. 177.
Mental Hygiene in a General Hospital. G. G. Martin, Buffalo.—p. 190.
The Place of the Mental Hygiene Clinic in the Community. L. Maletz, Hathorne, Mass.—p. 196.
Mental Hygiene for the Blind. G. Farrell, Watertown, Mass.—p. 215.
Understanding the Nonreader. J. Jastak, Farnhurst, Del.—p. 228.
A Summer Camp as Integral Part of Psychiatric Clinic. R. A. Young, Boston.—p. 241.
Mental Hygiene at Senescence. G. Lawton, New York.—p. 257.
Mental Hygiene and Freshman Counseling. C. C. Fry, New Haven, Conn.—p. 268.
Effect of Foster-Home Placement on Intelligence Ratings of Children of Feebleminded Parents: Report of Study Conducted by the Child-Caring Agencies of St. Paul, Minn. Jessie Wells and Grace Arthur, St. Paul.—p. 277.

Minnesota Medicine, St. Paul

22: 217-290 (April) 1939

The "Position-Relief Syndrome" of Hydronephrosis. J. M. Berkman and J. T. Priestley, Rochester.—p. 217.
Treatment of Chronic Suppurative Disease of Lung. T. J. Kinsella, Minneapolis.—p. 223.
Recent Advances in Treatment of Neuropsychiatric Disorders. E. M. Hammes, St. Paul.—p. 233.
The Nervous Patient. A. E. Meinert, Winona.—p. 238.
Some Points on Cross Eyes. J. B. Gaida, St. Cloud.—p. 241.
Experiences with Sistosan, Nonirritating Hemostatic. A. Schwyzer, St. Paul.—p. 245.

Missouri State Medical Assn. Journal, St. Louis

36: 143-184 (April) 1939

Cancer of the Breast: Surgical Treatment. C. J. Hunt, Kansas City.—p. 143.
Anatomic Cavity Tumors (Especially Cancer of Cervix): Periscopic Localization and Treatment with Deep and Contact Roentgen Ray Therapy. L. G. McCutchen, St. Louis.—p. 147.
Progress in Missouri's Indigent Cancer Problem. D. A. Robnett, Columbia.—p. 150.
Use of Radon in Treatment of Carcinoma. L. H. Jorstad and B. C. Martin, St. Louis.—p. 151.
Measures for Improving Clinical Results in Treatment of Carcinoma of Uterine Cervix. A. N. Arneson, St. Louis.—p. 153.
Treatment of Cancer of the Lip. E. C. Padgett, Kansas City.—p. 154.
Cancer of the Breast. W. E. Leighton, St. Louis.—p. 157.
Progress in the Control of Cancer. F. L. Rector, Evanston, Ill.—p. 160.
How the Indigent Cancer Patient in Missouri Can Secure Treatment. F. T. Hodgdon, F. J. Taussig, P. F. Cole and W. M. Clark, St. Louis.—p. 162.
Cervicitis: New Treatment with Osmos. H. L. Kleine, St. Louis.—p. 163.

Nebraska State Medical Journal, Lincoln

24: 121-160 (April) 1939

Enlarged Thymus. A. F. Tyler and W. E. Holmes, Omaha.—p. 121.
Treatment of Pneumonia. R. W. Bliss, Omaha.—p. 125.
Two Case Reports of Two Types of Pelvic Tumors. E. C. Sage, Omaha.—p. 129.
Hemorrhagic Encephalitis: Report of Case. P. Q. Baker, Scottsbluff.—p. 130.
Scarlet Fever. H. D. Meyers, Howells.—p. 131.
Hysteria: Exposition of the Theory of T. A. Ross. R. F. Richie, Lincoln.—p. 133.

New England Journal of Medicine, Boston

220: 583-616 (April 6) 1939

*Treatment of Gout with a Low-Fat, High-Carbohydrate Diet: Preliminary Report. E. C. Bartels, Boston.—p. 583.
Meningitis Secondary to Subacute Bacterial Endocarditis. W. F. Smith, Hartford, Conn.—p. 587.
Hemorrhoids, with Special Reference to Injection Treatment. R. E. Mabrey and G. S. Speare, Boston.—p. 592.
Endocrinology. J. C. Aub, Boston.—p. 595.

Gout Controlled by Diet.—Bartels shows that gout can apparently be controlled from both the standpoint of symptoms and the level of blood uric acid. His plan of treatment consists in the utilization of a diet high in carbohydrate and low in fat and purine, with the addition of the periodic administration of cinchophen. The diet used is that proposed by Lockie and Hubbard and the cinchophen is given according to the plan of Hench, 7½ grains (0.5 Gm.) three times a day for three days each week. Four cases are reported which illustrate the author's experience with this treatment. The plan prevented further attacks of joint pain and the blood uric acid returned to a normal level. The low-fat, high-carbohydrate diet is not difficult to prepare and its satiety value is satisfactory. The results, he states, warrant further investigation of such a plan in a larger series of patients.

New Jersey Medical Society Journal, Trenton

36: 135-192 (March) 1939

Fetal Morbidity and Mortality in Late Toxemia of Pregnancy. V. Del Duca, Camden.—p. 141.
Thoughts on Disease of the Stomach as Interpreted by the Gastroscope. W. A. Swalm and L. M. Morrison, Philadelphia.—p. 143.
Some Bedside Applications of Circulatory Dynamics. A. M. Fishberg, New York.—p. 147.
Syphilis as an Obstetric Problem: Maternal Welfare Article Number Thirty-Five. H. B. Kessler, Newark.—p. 153.

36: 193-254 (April) 1939

Fractures of Lower End of Humerus. S. C. Yachnin, Passaic.—p. 197.
Clinical Aspects of Tuberculosis in School Children. I. L. Applebaum, Newark.—p. 201.
Lymphogranuloma Venereum: Report of Case, with Observations on Micropathology of Frei Test. I. M. Ariel, Paterson.—p. 204.
Partial and Complete Obstruction of Ureters as Roentgenologic Problem. B. H. Nichols, Cleveland.—p. 207.
Lower Urinary Tract Obstruction in Children: Two Case Reports. S. J. Pearlman, New York.—p. 216.
Pathology and Treatment of Urinary Infections in Children. M. F. Campbell, New York.—p. 222.
Treatment of Uterine Fibroids, Especially Those with Menorrhagia: Maternal Welfare Article Number Thirty-Six. J. H. Underwood, Woodbury.—p. 232.

New York State Journal of Medicine, New York

39: 769-858 (April 15) 1939

Maternal Mortality: Report of 1937 in Buffalo, N. Y. L. A. Siegel, Buffalo.—p. 775.
*Syndrome Simulating Tabes Dorsalis. M. J. Costello, New York.—p. 781.
Epidemic Diarrhea of Newborn: New Disease? S. Frant and H. Abramson, New York.—p. 784.
Spontaneous Pneumothorax in Asthmatic Patient Treated with Iodized Oil. A. M. Fuchs, New York.—p. 791.
Syndrome of Retroperitoneal Pelvic Abscess. A. P. Ingegno and S. Spitz, Brooklyn.—p. 794.
Malignant Manifestations of Bowen's Disease. A. P. Stout, New York.—p. 801.
Vaccination Against Tuberculosis: Comparative Results Obtained with Koch's Bacillen Emulsion, Calmette's BCG and the Caseous Vaccine of the Saranac Laboratory: Fourth Communication. H. M. Kinghorn and M. Dworski, Saranac Lake.—p. 810.
Anesthesia Problems in Small Communities. C. J. Wells, Syracuse.—p. 816.
Diagnosis and Management of Subacute Blood Stream Infections of Kidney. H. Cabot and T. R. Montgomery, Rochester, Minn.—p. 818.
The Patch Test: Evaluation of Its Possible Dangers. P. E. Bechet, New York.—p. 829.

Syndrome Simulating Tabes.—Costello describes a syndrome which although simulating tabes dorsalis with its Argyll Robertson pupil and absent tendon reflexes is essentially different from it. A knowledge of this condition is of importance to the physician who assumes the responsibility of diagnosing and treating syphilis. The pseudo-Argyll Robertson pupil of Adie's syndrome does not react to light either directly or consensually and in this way is identical with the true Argyll Robertson pupil. It contracts slowly during the effort of accommodation convergence for near objects and remains small for thirty seconds or longer. After the effort to converge is relaxed, it regains its original size only after dilating sluggishly. It is unilateral in 80 per cent of the cases and is usually on the left side. The pupils are unequal, the affected one is frequently somewhat dilated, larger and is usually oval in the horizontal or vertical plane. It varies in size from time to time. When markedly enlarged it cannot be used for close work. It dilates readily, rapidly and completely to the mydriatics and to painful stimuli. It contracts in a similar manner to miotics. The condition is benign and is not rare. It is important only because it is to be differentiated from the Argyll Robertson pupil of syphilis. It holds a position analogous to that of pityriasis rosea in dermatology. In this syndrome, that is, pupilotonia with absent tendon reflexes, there is no evidence of syphilis and there are no signs of organic nervous disease. It is seen more frequently in women and in those of neurotic temperament who have undergone some recent emotional upset. There is a familial tendency and many of these patients exhibit dermographism. There are only two points of similarity between this condition and that of tabes dorsalis: the pupils do not react to light or shade directly or consensually and there is almost invariably an associated loss of the deep tendon reflexes.

Pennsylvania Medical Journal, Harrisburg

42: 721-848 (April) 1939

Characteristics of Blood Clot Formation: Significance in Pediatric Practice. C. F. McKhann and G. Edsall, Boston.—p. 731.
Certain Clinical Aspects of Chronic Bright's Disease. H. A. Christian, Boston.—p. 738.
*Analysis of Feeding of Various Foods to Over 1,200 Newborn Infants. F. T. O'Donnell, Wilkes-Barre.—p. 746.
Atypical Manifestations of Hypothyroidism. E. Rose, Philadelphia.—p. 752.
Hypertension in Young Persons. H. L. Tonkin, Williamsport.—p. 755.
Large Twins. J. W. Croft, Waynesboro.—p. 758.
Injuries of Knee Joint. P. R. Sieber, Pittsburgh.—p. 759.
Location of Disease in the Personality. E. B. Edie, Uniontown.—p. 763.
Correction of Remedial Defects Found at Routine Examination. L. J. Laux, Sayre.—p. 767.
Extravasation of Urine. E. A. Mullen, Philadelphia.—p. 769.
Management of Uveitis. D. Marshall, Danville.—p. 775.
Basmeter: New Method of Calculating the Basal Metabolic Rate by Means of Slide Rule. E. R. Janjigian, Danville.—p. 778.
Diagnosis and Treatment of Cystic Tumors of Jaw. N. C. Ochsenhirt, Pittsburgh.—p. 784.
Some Practical Considerations of Cholecystography from the Roentgenologic Aspect. E. P. Pendergrass, Philadelphia.—p. 787.

Analysis of Various Infant Foods.—O'Donnell studied 1,237 newborn infants given seventeen different complemental foods. A comparison of the weight progress shows a difference among the various series, but after close observation the differ-

ence is so slight that none of the foods administered could be considered far superior to the others in value. The author believes that it matters little which food is given as long as it is carefully controlled. The important factors are the caloric content of the food and the fluid intake of the infant. With properly prescribed complemental feedings, infants show a better weight progress, the infants regain their weight more rapidly, there is little if any inanition fever, little if any dehydration, the initial loss of weight can be decreased, the nursery is quieter and the babies are more contented than with breast milk alone.

Philippine Islands Med. Association Journal, Manila

19: 67-120 (Feb.) 1939

Unusual Types of Typhoid Infections: II. P. T. Lantin and J. Silva, Manila.—p. 67.

Bacteriology of Ileocolitis and Diarrheas Among Children. A. Pio de Roda, Manila.—p. 73.

Effects of Therapeutic and Toxic Doses of Atropine Sulfate and Tincture of Belladonna on Filipinos. F. Garcia, Manila.—p. 81.

Maintenance of Fluid Balance in Infants and Children, with Special Reference to Gastrointestinal Infections. J. S. Garcia, Dumaguete.—p. 89.

Physiological Reviews, Baltimore

19: 135-302 (April) 1939

Respiration in Central Nervous System. J. H. Quastel, Cardiff, Wales.—p. 135.

Cellular Oxidation Systems. E. S. G. Barron, Chicago.—p. 184.

Bacterial Chemotherapy: Pharmacology of Sulfanilamide. E. K. Marshall Jr., Baltimore.—p. 240.

Ultrastructure of Protoplasmic Constituents. F. O. Schmitt, St. Louis.—p. 270.

Public Health Reports, Washington, D. C.

54: 561-592 (April 7) 1939

Insects Found on Aircraft at Miami, Fla. in 1938. E. V. Welch.—p. 561.

*Studies on Oxyuriasis: XIX. Examinations of Children in Private Nursery School Over an Eighteen Month Period. Eloise B. Cram and M. O. Nolan.—p. 567.

Simple Device for Sampling Air-Borne Bacteria. A. Hollaender and J. M. DallaValle.—p. 574.

54: 593-628 (April 14) 1939

Antigenic and Synergistic Action of Toxic Serum Extract of Hemolytic Streptococci. M. P. Schultz and Edythe J. Rose.—p. 596.

Two Year Record of Adult Mosquito Trapping in Dade County, Florida. C. T. Carnahan.—p. 608.

Oxyuriasis in Private Nursery School.—In a modern, well-equipped private nursery school in Washington, D. C., Cram and Nolan determined the incidence of infestation with pinworms (Enterobius vermicularis). The pupils (131) consisted of white children from 2 to 9 years of age of both sexes from families of a fairly high social-economic status. The children examined comprised two principal groups—106 who were in the school for varying lengths of time in 1937, some of them continuing in the first half of 1938, and twenty-five who entered in 1938, practically a year after the examinations had begun and control measures of a therapeutic and prophylactic nature had been instituted. None of the twenty-five children were under observation for more than six months. In the group of 106 children examined during the eighteen month period, fifty-eight showed evidence of pinworm infestation at some time during this period. A higher incidence of infestation was found in the boys than in the girls. Distinct from the 106 children who entered the school during 1937 were the twenty-five children who entered the school for the first time in 1938 after control measures were instituted. Of the twenty-five newcomers, seventeen were boys and eight were girls. In this group, two children showed positive results for pinworms, both boys. One of the boys was positive on the first examination, soon after entering the school; the other boy showed negative results on two examinations made during the first month but positive on the third examination made early in the second month. Examinations during the next several months indicated a marked reduction in incidence. The validity of this decline was tested critically by increasing the number of swab examinations; a larger number of swabs was examined in March 1938 than in any other one month, both as to the total number and as to the average number per child. No new cases of pinworm infestation were found during the last five months of the investigation. In addition to the pupils in the school, thirty-four persons associated with the pupils were examined; eight of these persons showed positive results for pinworms. Of these eight cases of oxyuriasis, three were mothers, one was an older brother, one a maid in the home of pupils who gave positive reactions and three were persons associated with the pupils in the school.

Puerto Rico J. Pub. Health & Trop. Med., San Juan

14: 199-388 (March) 1939

Health and Socio-Economic Studies in Puerto Rico: II. Health and Socio-Economic Conditions in the Tobacco, Coffee and Fruit Regions. P. Morales Otero, San Juan; M. A. Pérez, R. Ramirez Santos, Rafaela Espino and M. Marrero.—p. 201.

Rhode Island Medical Journal, Providence

22: 57-70 (April) 1939

Operation for Spina Bifida Forty Years Ago. W. L. Munro, Providence.—p. 57.

Pediatric Significance of Malocclusion. R. M. Smith, Boston.—p. 58.

Do We Consider the Child as a Whole? C. P. Bonin, Boston.—p. 60.

Rocky Mountain Medical Journal, Denver

36: 217-288 (April) 1939

Emergency Treatment at the Scene of the Accident. C. H. Folsom, Julesburg, Colo.—p. 234.

Fundamental Principles, or Do's and Don'ts in the Handling of Fractures. H. I. Barnard, Denver.—p. 235.

Fractures of Facial Bones. G. W. Smith, Denver.—p. 238.

Compression Fractures of Spine. G. B. Packard, Denver.—p. 241.

Fractures of Shaft of Femur. D. B. Shaw, Pueblo.—p. 245.

So-Called Bumper and Cowl Fractures. G. W. Bancroft, Colorado Springs.—p. 247.

Transurethral Resection of Prostate. R. P. Middleton, Salt Lake City.—p. 249.

Drug Charges in the Hospital. Audrey A. Lawson, Denver.—p. 255.

Southern Medical Journal, Birmingham, Ala.

32: 341-450 (April) 1939. Partial Index

The Autonomic Nervous System in Relation to Urology. A. Kuntz, St. Louis.—p. 341.

Experiences with Sleep Treatment. L. Barbato and S. Weisz, Galveston, Texas.—p. 354.

Relation of Certain Gastrointestinal Symptoms to Intracranial Disease. H. Wilkins, Oklahoma City.—p. 362.

Minimal Incidence of Intestinal Protozoa in Representative Sampling of Adult Population in Florida. J. L. Borland, Jacksonville, Fla.—p. 364.

Vegetative Dermatoses in the Negro. T. B. Hall, Kansas City, Mo.—p. 376.

*Relationship of Primary (Childhood) Tuberculosis and Nonspecific Respiratory Infection. H. Hosen, Port Arthur, Texas, and J. Miles, Houston, Texas.—p. 387.

Physiology of Nasal Sinuses. A. Proetz, St. Louis.—p. 408.

Diagnosis and Treatment of Convergent Squint. W. T. Davis, Washington, D. C.—p. 410.

Preconceptional Care. H. P. Hewitt, Chattanooga, Tenn.—p. 417.

Pathology of Carcinoma of the Prostate: Diagnosis of Early Growths. M. L. Boyd, Atlanta, Ga.—p. 422.

Repair of Anterior Cruciate Ligament of the Knee. W. C. Campbell, Memphis, Tenn.—p. 442.

Primary Tuberculosis and Respiratory Infection.—Hosen and Miles state that a primary infection, no matter what the age of the person at the time, may heal completely so that the patient loses his cell sensitization to tuberculoprotein, it may become quiescent with an increased specific resistance, it may extend immediately and produce death of the person or it may extend later and produce clinical disease and even death after a state of specific resistance has been established. One of the fortunate effects of a primary infection is the building up of a specific defense immunity. This immunity in tuberculosis, unfortunately, is not a state of absolute protection but a relative protection. It vacillates, increasing and diminishing according to the condition of the patient. Tuberculous infection and tuberculous disease are distinct and different entities and they must be treated apart. The authors have many cases of so-called activity of primary foci, but they have been hesitant to label these cases as due to the effects of tuberculous toxin, for (1) after preventive treatment for active tuberculous infection many patients fail to show any improvement in their symptoms, (2) the symptoms of cough, instability of the nervous system, tiredness, restless sleep, anorexia, sweating, leukocytosis, rapid heart, anemia or rise of temperature are often associated with nontuberculous disease of the respiratory system even in children

with tuberculous infection and (3) the x-ray evidence of tuberculous infection is similar to the x-ray evidence in chronic bronchitis. Thus it is difficult to say whether the exudative process in the hilus is due to tuberculous infection or to nonspecific infection. Consequently they undertook an investigation of 100 tuberculous infected children. The sinuses were studied, for in their experience the large majority of children with chronic sinus infection have a secondary bronchitis. The reverse is not true, for often a bronchitis is present with negative signs in the sinuses. Sixty-six of the 100 tuberculous children showed definite x-ray evidence of chronic sinusitis. Treatment of the sinusitis was instituted in a representative number of these cases with the result that all symptoms of active disease were completely alleviated. This was ample evidence that the presenting symptoms were due not to open foci of tuberculous infection but to a nonspecific sinusitis. A number of these patients had preventive care without any relief. The authors are not prepared to say whether the sinus infection or the tuberculous infection occurred first but emphasize that the presence of sinusitis in a tuberculous infected child will lower the patient's resistance and thus may lead to an early breakdown of the primary complex with a resultant active tuberculosis. Also the presence of sinusitis in noninfected individuals will lower body resistance and may cause a special susceptibility to infection by the tubercle bacilli. Whenever a tuberculous child shows symptoms of any activity, a concomitant sinusitis should be looked for before he is labeled as suffering from an active primary complex.

Surgery, St. Louis

5: 491-652 (April) 1939

Treatment of Thrombophlebitis by Novocain Block of Sympathetics: Technic of Injection. A. Ochsner and M. DeBakey, New Orleans.—p. 491.

Surgical Knots and Sutures. F. W. Taylor, Indianapolis.—p. 498.

Study of Use of Silk, Catgut and Noble Plication with Reference to Abdominal Adhesions. J. K. Donaldson and R. R. Cameron, Little Rock, Ark.—p. 511.

*Cysts of Omentum, Mesentery and Retroperitoneum: Clinical Study of Eighteen Cases. L. Berger and R. E. Rothenberg, Brooklyn.—p. 522.

Physiologic Indications in Peptic Ulcer Diets. A. F. R. Andresen, Brooklyn.—p. 535.

Perforation of Carcinoma of Stomach: Review of Literature and Report of Case. A. M. Dickinson, Albany, N. Y.—p. 543.

Oblique, Aseptic, End-to-End Intestinal Anastomosis. C. Dennis, Minneapolis.—p. 548.

Utilization of Dogs in Experimental Proctology. L. H. Block, Chicago. —p. 554.

*Method for Determining Efficiency of Preoperative Skin Sterilization. M. Novak and H. Hall, Minneapolis.—p. 560.

Clinical Classification of Cancer of Breast. S. G. Schenck, Brooklyn.—p. 567.

Cervical Sympathetic Ganglioneuroma: Case Report and Review of Literature. H. B. Shumacker Jr. and E. A. Lawrence, New Haven, Conn.—p. 572.

Similar Goiters in Monozygotic Twins. H. B. Neel, Rochester, Minn.—p. 582.

Surgical Treatment of Bilateral Bronchiectasis: Report of Case of Bilateral Lobectomy. H. H. Bradshaw and R. J. Chodoff, Philadelphia. p. 593.

Scalenus Anticus Syndrome: Diagnostic and Confirmatory Test. M. Gage, New Orleans.—p. 599.

Aneurysm of Splenic Artery: Review of Literature and Report of Two Cases. C. C. Guy, Chicago.—p. 602.

Chronic Sciatic Pain Due to Adhesions About Nerve Trunk and Results of Their Removal by Operation. G. Wagoner, Bryn Mawr, Pa.—p. 609.

Cysts of Omentum, Mesentery and Retroperitoneum.—Berger and Rothenberg present an analysis of eighteen cases of cysts of the omentum, mesentery and retroperitoneum operated on from 1915 to 1938. They believe that omental, mesenteric and retroperitoneal cysts should be grouped as one—that is retroperitoneal—since embryologically and pathologically they have a similar origin. Symptoms and signs are acute or chronic. The acute symptoms are often occasioned by hemorrhage into the cyst or rupture of the cystic wall. The chronic symptoms are usually mild, the main complaint being that of a progressively growing abdominal tumor. Albuminuria was observed in nine cases. The exclusion, by x-ray examination, of the gastrointestinal and urinary tracts as the seat of the pathologic changes is helpful in establishing the diagnosis of omental, mesenteric or retroperitoneal cyst. Omental cysts are usually large, thin walled, multiloculated, and contain serosanguineous fluid. They tend to rupture easily, thus causing acute symptoms. Mesenteric cysts are often the size of a grapefruit, are thick walled, do not rupture easily but tend to cause intestinal obstruction. If they arise from the mesentery of the small intestine, they usually contain chylous fluid. Cysts arising from behind the posterior peritoneum grow to huge dimensions, are thin walled, rupture occasionally and most often contain straw-colored or serosanguineous fluid. Microscopically the most common observations are either a cystic wall composed of loose fibrous tissue or a flat endothelial layer surrounded by a fibrous layer of tissue. All eighteen patients recovered following operation. Whenever possible, complete resection should be performed but, if hazardous, then marsupialization or simple incision and drainage of the cyst is sufficient. These cysts show little tendency to recur or to become malignant. Extensive surgical intervention was not necessary, the authors state, since complications did not occur in their patients.

Efficiency of Preoperative Sterilization of Skin.—Novak and Hall found an average of twelve staphylococci and diphtheroids per square centimeter on normally clean skin. Applications of 50 per cent alcohol and 10 per cent acetone solution, a common solvent for antiseptics, destroy 96 per cent of the bacteria on the skin. Only from 2 to 3 per cent more of the cutaneous organisms are killed when any commonly used skin antiseptic is added to this solvent. Tincture of green soap alone is inefficient for sterilizing the skin, killing only 53 per cent of the bacteria on the skin. The authors state that a concentration of 0.07 per cent mercury bichloride and 0.5 per cent tricresol (costing about 5 cents a gallon) in 50 per cent alcohol and 10 per cent acetone solution make an efficient and inexpensive skin antiseptic.

Texas State Journal of Medicine, Fort Worth

34: 809-900 (April) 1939

Relation of Endocrine Glands to Sterility. E. Novak, Baltimore.—p. 814.

Management of Hemorrhage in Third Trimester of Pregnancy. S. F. Moore Jr., San Antonio.—p. 820.

Inflammatory Diseases of Cervix. B. H. Passmore, San Antonio.—p. 823.

Congenital Solitary Kidney: Report of Case. R. W. Pickett, Texarkana. —p. 826.

Urinary Calculi Recurrence: Dietary Treatment. R. E. Van Duzen and R. H. Cantrell, Dallas.—p. 829.

The Nature of the Problem in Peptic Ulcer. C. T. Stone, Galveston. —p. 833.

Bence-Jones Proteinuria. G. M. Decherd Jr., New Orleans.—p. 838.

Mental Hygiene in Childhood. M. A. Davison, Marlin.—p. 842.

Roentgenologic Study of Gallbladder and Bile Ducts. W. M. Barron, San Antonio.—p. 846.

X-Ray Examination of Larynx and Pharynx. R. P. O'Bannon, Fort Worth.—p. 849.

Laryngeal Abscess. B. P. Woodson, Temple.—p. 852.

Calcaneal Spurs. A. E. Winsett, Amarillo.—p. 854.

Western J. Surg., Obst. & Gynecology, Portland, Ore.

47: 169-242 (April) 1939

Contributions of American Gynecologists to Surgery of Female Bladder: Presidential Address. R. E. Watkins, Portland, Ore.—p. 169.

Induction of Labor in Patients with Toxemia or Nephritis. A. W. Holman and A. Mathieu, Portland, Ore.—p. 182.

Hemorrhage in Early Pregnancy. C. W. Page, Berkeley, Calif.—p. 193.

Placenta Praevia and Abruptio Placentae. Alice F. Maxwell, San Francisco.—p. 199.

Immediate Postpartum Hemorrhage. J. W. Sherrick, Oakland, Calif. —p. 210.

Late Postpartum Hemorrhage. N. H. Williams, Beverly Hills, Calif.—p. 223.

Wisconsin Medical Journal, Madison

38: 253-344 (April) 1939

Advances in Treatment of Indigestion. W. C. Alvarez, Rochester, Minn. —p. 269.

Myringotomy: Incision of Ear Drum Membrane. J. J. Shea, Memphis, Tenn.—p. 273.

Management of Occiput Posterior. C. D. Neidhold, Appleton.—p. 275.

Burns. S. J. Seeger, Milwaukee.—p. 279.

Hyperinsulinism. J. Smith, Wausau.—p. 283.

Serum Therapy of Pneumonia. E. A. Birge, Madison.—p. 286.

Consideration of Scars, Stumps and Functional End Results in Treatment of Injuries. R. M. Carter, Green Bay.—p. 289.

Discussion of Secondary Anemias of Infancy. E. C. Hartman, Janesville. —p. 293.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

62: 1-128 (March) 1939

The Cerebellum of Man. G. Holmes.—p. 1.
Some Observations on Nature of Vibratory Sensibility. H. W. Newman, J. Doupe and R. W. Wilkins.—p. 31.
Systemization and Central Connections of Spinal Tract and Nucleus of the Trigeminal Nerve: Clinical and Pathologic Study. G. E. Smyth. —p. 41.
Chemical Study on Fluids Obtained from Cerebral Cysts: Report on Fifty-Six Cases. K. Stern.—p. 88.
Spastic Dysphonia (Inspiratory Speech). M. Critchley.—p. 96.
*Clinical Recognition of Pick's Disease: Report of Three Cases. L. Benedek and T. Lehoczky.—p. 104.

Pick's Disease.—Benedek and Lehoczky cite three cases of Pick's disease diagnosed during life, all of which presented peculiar arteriographic and ventriculo-encephalographic features. In two cases confirmatory evidence was obtained by cerebral puncture. The encephalogram showed opercular cysts in one case in the fifth ventricle, in another on both sides. A progressive increase in the size of these cysts was demonstrated by encephalograms taken at intervals of from four to six weeks. Cerebral angiograms showed changes attributable to atrophy. Cerebral puncture demonstrated a severe degeneration of the frontal cells and axons, an activity of the glia and in case 2 incipient senile plaques. On the ventriculogram in case 3 the projection of the frontal horns of the lateral ventricles became enormously bulging, especially on the left side, thus giving the ventricular system a peculiar dumb bell-like or clublike appearance. On the basis of these three cases the authors assert that the clinical syndrome in itself is sufficient for the differential diagnosis of the disease.

British Medical Journal, London

1: 491-546 (March 11) 1939

Referred Pain from Bone Points. R. Bastianelli.—p. 491.
Two Cases of Hematologic Interest. I. MacKay.—p. 494.
Anatomy of the Bronchial Tree. J. H. Neil, W. Gilmour and F. J. Gwynne.—p. 495.
Pick's Disease Studied with the Aid of Kymography: Two Cases. G. L. S. Konstam and F. G. Wood.—p. 498.
Juvenile Form of Adrenogenital Syndrome. J. S. Richardson and W. R. S. Doll.—p. 501.
Single Large Cyst of the Lung Simulating a High Pressure Pneumothorax. E. H. Hudson.—p. 503.
Enteric Intussusception Due to Invagination of Meckel's Diverticulum. M. Paul.—p. 504.

1: 547-598 (March 18) 1939

Action of Drugs in Muscular Fatigue. J. H. Burn.—p. 547.
*Three-Phase Modified Bendien Reaction. C. H. G. Price.—p. 551.
Transfusion with Conserved Blood. E. Biddle and G. F. Langley.—p. 555.
*Recurring Intracardiac Clotting: Its Association with Acute Bronchial Asthma. J. B. Jessiman.—p. 557.
Acute Psychoses Following Surgical Procedures. H. H. Miller.—p. 558.
*Severe Skin and General Reaction Following Administration of Sulfapyridine and Exposure to Ultraviolet Light. R. Hallam.—p. 559.

Modified Bendien Reaction.—The Bendien technic described by Lowe was closely followed by Price as regards the performance of the test itself in the examination of 427 specimens of blood; the only modification was in the method of estimating the amount of flocculation produced by the action of the vanadic acid standards on the various specimens of serum. Either a nephelometer or a photoelectric absorptiometer was used for all estimations. There was agreement of serologic results with clinical observations in 55.5 per cent of the 427 specimens of blood. Evidence suggests that, the larger the number of cases tested, the nearer to equality becomes the proportion of positive and negative results. In other words, the association of active malignant conditions with a positive result is a matter of chance. Consequent on this, and supported by subsequent history, the test is of no value in the diagnosis, control of treatment or prognosis of the disease. The test has shown itself to be entirely unreliable. There is no quantitative relation between a positive result of the three phase test on a sample of serum and the level of the cholesterol in that particular specimen. Neither was it possible to demonstrate any connection between the serum cholesterol figure and the amount of flocculation in phases B and C of the three phase test.

Recurring Intracardiac Clotting.—Jessiman reports a fatal case of intracardiac clotting precipitated by an attack of acute bronchial asthma and followed by massive embolic infarction of the lung in a young primipara. Evidence was obtained that two years previously the patient survived intracardiac clotting, which also resulted from bronchial asthma. That the patient's previous attacks of acute asthma were of the bronchial type cannot be doubted, as they responded repeatedly to ordinary antiasthmatic remedies, were typically bronchial in appearance and behavior and were relieved by the endocrine readjustment of pregnancy. In the attack of two years ago, which began as acute bronchial asthma, it would appear that the superimposed heart signs and symptoms were due to intracardiac clotting. The heart signs appeared rapidly, the patient all but died within a few hours, the attack was apyrexial, recovery was rapid, and following it there appeared definite and rough valvular murmurs which cleared up with incredible speed. It is probable that the murmurs were due to an organized thrombus either in the right auricle or in the right ventricle—more likely the latter—moored to the chordae tendineae of the tricuspid valve (as found post mortem) and that the rapid disappearance of the murmurs was the result of the rapid organization and absorption of the thrombus. Moreover, the fatal attack started in an exactly similar way, and the postmortem observations gave a positive explanation of the course of events in this final attack. It appears that intracardiac clotting may take place in the absence of endocarditis and may give rise to the signs of a gross valvular lesion. A seriously damaged heart may show no direct physical sign of failure even with the strain of pregnancy and a lengthy labor.

Photosensitization and Sulfapyridine.—Since it does not appear to be generally recognized that a severe cutaneous and general reaction may take place as a sequela to exposure to light during or following the administration of the sulfanilamide group of drugs, Hallam cites such a case. Only a small dose of sulfapyridine was taken by the patient but shortly after an exposure to ultraviolet irradiation a dermatitis, elevation of temperature and raised pulse, that is, a general reaction, took place. Therefore there appear to be grounds for assuming that this man's skin was photosensitized by some chemical reaction following the administration of sulfapyridine and that the exposure to a moderate dose of ultraviolet radiation precipitated the onset of an intense reaction. It is desirable that every prescriber of sulfapyridine should be aware of this potentiality and that every patient be expressly warned of the danger of exposure to strong sunlight or any form of artificial sunlight during the time he is taking the drug.

Edinburgh Medical Journal

46: 153-220 (March) 1939

Alveolar and Bronchopneumonia in Childhood. C. McNeil.—p. 153.
Epidemiologic Aspects of Pulmonary Tuberculosis Due to Bovine Type Tubercle Bacilli. W. T. Munro—p. 165.
Giant Cell Tumor of Bone. J. W. Struthers.—p. 183.
Further Studies on Van den Bergh's Test. A. Chakravarti.—p. 194.
Observations on Virus of Influenza, with View to Elaborating a Simple Diagnostic Test Whereby Its Presence in Respiratory Tract of Man May Be Revealed. W. J. Tulloch.—p. 200.

J. Royal Inst. Public Health and Hygiene, London

2: 137-202 (March) 1939

Results of Treatment of Carcinoma of the Cervix by Radium. M. Donaldson.—p. 161.
Eye Defects in School Children, with Some Special Reference to Orthoptic Treatment. J. M. Dollar.—p. 166.
Public Health Services in Relation to Industrial Hygiene. W. D. Jenkins. —p. 178.
Can Publicity Play a Part in Making a Healthier and Fitter Britain? W. E. Whyte.—p. 187.

Journal of Tropical Medicine and Hygiene, London

42: 65-80 (March 1) 1939

Preliminary Note on Inhibitory Effects of Chronic Poisoning by Foods Containing Cyanic Substances. A. Clark.—p. 65.
Elimination of Certain Dyes by Biliary System: Review of Some Experimental Data with Their Possible Clinical Implications. B. Halpert. —p. 72.

42: 81-96 (March 15) 1939

The Cantharides Blister and Its Application in Microbiologic Research: Review of Literature and Some Suggestions. T. Benedek.—p. 81.
Reactional Increase of Eosinophil Proportion of Blood in Schistosomiasis Subsequent to Antimony Treatment: Phenomenon in Support of Recognition of Latent Infection. F. Mainzer.—p. 86.

Lancet, London

1: 553-616 (March 11) 1939

Cancer of Alimentary Tract: Its Pathogenesis and Its Prophylaxis. A. Hurst.—p. 553.
*Lead Poisoning: Lead Content of Blood and of Excreta. S. L. Tompsett and A. B. Anderson.—p. 559.
*Sulfapyridine and Pneumococci. I. H. Maclean, K. B. Rogers and A. Fleming.—p. 562.
New Tiltable Bed: Its Medical Uses. F. C. Eve.—p. 568.
Surgical Experiences with New Tilting Bed. J. R. Blackburne.—p. 570.

Lead Poisoning.—Tompsett and Anderson examined the lead content of the blood and excreta in twenty-nine cases of suspected lead poisoning. Eleven of these were finally diagnosed as plumbism. In ten of the cases of poisoning the content of lead in the blood was greater than 100 micrograms per hundred cubic milliliters of blood and varied from 100 to 400 micrograms. The total daily excretion in the urine and feces varied from 0.22 to 2.82 mg. and did not run parallel to the level of lead in the blood. The remaining patient showed a blood lead content of only 75 micrograms but a daily excretion of 1.27 mg. The authors suggest that more than 100 micrograms of lead per hundred cubic milliliters of blood or a total daily excretion of 1 mg. or more indicates lead poisoning.

Sulfapyridine and Pneumococci.—In order to avoid the extra work generally involved in determining the sensitivity of the different pneumococci to sulfapyridine, Maclean and his colleagues adopted a method in which a fixed amount of sulfapyridine was added to blood infected with various dilutions of a pneumococcus culture. This enabled them to obtain an end point with an unknown culture without any preliminary titration. Experiments were made with various concentrations of sulfapyridine in blood, but usually a strength of 1 in 20,000 was used. By this method they have tested strains of thirty types of pneumococci and in the case of certain types a number of different strains were tested. They found that pneumococci vary enormously in their sensitivity to the drug and that this variation is not associated with the type of pneumococcus but with the individual strain. Experiments in mice confirm the results obtained in vitro. It is suggested that whenever possible such a test should be carried out and according to the result obtained forecasts can be made as to the result likely to be obtained with sulfapyridine treatment. If the infecting organism is sensitive, simple treatment with the drug will probably be effective; if it is only moderately sensitive it is likely that some increase in immunity will be necessary in addition to sulfapyridine treatment; but if the organism is insensitive to sulfapyridine in concentrations which can be attained in the human body there is no justification for embarking on a course of such treatment, which cannot do good and may have serious toxic effects. A single dose of pneumococcus vaccine given to mice or rabbits profoundly affects the course of an experimental infection in these animals when treated with sulfapyridine, indicating the combined use of vaccines and sulfapyridine in all cases of pneumonia in man. Experiments are cited which show that pneumococci can, in an infected animal treated with sulfapyridine, readily establish a tolerance or fastness to the drug. This makes it essential that the initial doses should be large, and also—as sulfapyridine merely interferes with the growth of the bacteria and the body has to do the actual killing—it is essential that the immunity should be raised to as high a degree as possible by any means, active or passive, specific or nonspecific, so that the destruction of the bacteria may be complete before tolerance to the drug has been established.

1: 617-676 (March 18) 1939

*Surgical Revascularization of the Heart: Experimental Basis. L. O'Shaughnessy, D. Slome and F. Watson.—p. 617.
Cancer of Alimentary Tract: Its Pathogenesis and Its Prophylaxis. A. Hurst.—p. 621.
Organic Psychoses in Children. Mildred Creak.—p. 626.
*Herpes Simplex: Studies on Antibody Content of Human Serum. F. M. Burnet and Dora Lush.—p. 629.
*Hemoptysis and Lung Infiltration Caused by Avitaminosis. T. Jersild.—p. 632.
Free and Combined Estrogens in Blood During Pregnancy. O. Mühlbock.—p. 634.

Surgical Revascularization of the Heart.—O'Shaughnessy and his associates summarize the experimental evidence in favor of surgical revascularization of the heart and present the results which have accumulated during the last three years. Microscopic and injection studies show that vascular connections will develop between the vessels of the myocardium and extracardiac vessels (1) when cardiopericardial adhesions are produced with aleuronat, (2) when a pedicled omental graft is introduced into the pericardial sac and adhesion between the omentum and the heart is stimulated with aleuronat and (3) when the omentum is grafted to the outer surface of the pericardium after the production of cardiopericardial adhesions. Collateral communication will develop between the pulmonary and coronary circulations if a lobe of the lung is grafted to the myocardium.

Herpes Simplex.—Burnet and Lush studied the content of human serums in antibodies against herpes virus. The results bring herpes simplex infections much more closely into line with other virus diseases. The position seems to be that primary herpes is an infective disease spread by droplet infection or by salivary contamination, particularly in the age period from 1 to 3 years. The initial lesion is a vesicular stomatitis, often with fever and not uncommonly associated with secondary bacterial infection. In all probability, once infection has occurred in infancy the virus remains present in the body throughout life. In no other way is it possible to account for the fact that, irrespective of the age of the subject, if antibody is present at all it is present in high titer. The site of the persisting infection is still unknown. The two most important possibilities are that the virus remains dormant (1) in the nervous system, with the gasserian ganglion as the most probable site in relation to labial herpes or (2) in the epithelial cells of the buccal cavity, which is the locus favored by Levaditi and his collaborators (1922). The virus is not demonstrable by inoculation methods in the gasserian ganglions of persons with high titer antibody in their serum. Herpes antibody was much more common in serums from hospital patients than in those from a group of fifteen university graduates. There is no relation between susceptibility to clinical poliomyelitis and absence of herpes antibody. Herpes virus could not be demonstrated at necropsy in the gasserian ganglion of persons with high titer herpes antibody. Aphthous stomatitis in infancy is the common manifestation of primary infection with herpes virus.

Hemoptysis and Lung Infiltration Caused by Avitaminosis.—While treating a number of patients with citrin for hemorrhagic diathesis, Jersild encountered a patient whose main symptoms were a pulmonary disorder with hemoptysis and x-ray evidence of infiltration in the lungs. Under this treatment the tendency to hemorrhage and the pulmonary symptoms receded. Presumably the author believes that the only explanation of this case is hemorrhage in the lung tissue with hemoptysis. He previously reported (1938) a case of hemorrhagic diathesis (Schönlein-Henoch purpura) in which there were hemoptysis and x-ray changes in the right lung. In spite of careful examination at various tuberculosis dispensaries no pulmonary tuberculosis was found in this patient either. He states that the present case emphasizes the advisability of always testing the capillary resistance in hemoptysis in which no causal organism can be found. It would be of interest to investigate whether some of the hemoptyses of tuberculous patients are not the result of a deficiency of vitamin P.

Medical Journal of Australia, Sydney

1: 331-370 (March 4) 1939

Dr. Alexander Thomson: A Medical Pioneer and His Period. R. H. Croll.—p. 331.
Treatment of Some Late Results of Perforating Injuries of Joints. H. A. Sweetapple.—p. 342.
Perforating Injuries of Joints. H. R. G. Poate.—p. 339.
Property and Health. E. P. Dark.—p. 345.

South African Medical Journal, Cape Town

13: 147-186 (March 11) 1939

National Health Insurance. C. J. Albertyn.—p. 149.
The Inadequacies of Medical Service in South Africa. L. Wagner.—p. 152.
Some Notes on the Medical and Health Aspects of the Voortrekker Centenary Celebrations at Pretoria. H. S. Gear.—p. 156.
The Troubles of the Country Practitioner. R. Schaffer.—p. 159.
The Health of the Nursing Staff, Pretoria Hospital, 1936 to 1938. H. J. Hugo.—p. 163.

Bull. Asso. Franç. p. l'Etude du Cancer, Paris

28: 1-194 (Jan.) 1939. Partial Index

Study of Nonsystematized Multiple Cancers. P. Desaive, J. Firket, M. Chevremont and A. Dardenne.—p. 6.
Results and Interpretation of Hematologic Investigations on Personnel of Anticancerous Center of Marseille. L. Cornil and A. Rouslacroix.—p. 34.
*Apparent Relations Between Evolution of Cancer of Breast, Pregnancy and Post Partum. J. Verne, R. Huguenin and M. Perrot.—p. 56.
Reaction to Different Cancerigenic Agents of Mice Belonging to Same Cancerous Line. N. Dobrovolskaïa-Zavadskaïa and N. Adamova.—p. 76.
*Inhibiting Action of Male Hormone on Formation of Cancer Produced by Cancerigenous Substances. J. Flaks and A. Ber.—p. 108.
Anatomoclinical Study of Primary Cancer of Ampulla of Vater with Associated Degenerative Hepatitis. G. Giraud, H.-L. Guibert, J.-M. Bert and H. Serre.—p. 144.

Mammary Cancer During Pregnancy and After Delivery.—Verne and his associates report the clinical history of a woman, aged 35, who observed the development of a nodule in the upper portion of her right breast. The nodule was excised and diagnosed as an adenoma, but the microscopic examination revealed that it was an epithelioma. Roentgen therapy was instituted and it counteracted the subcicatricial induration. An examination several months later revealed nothing abnormal; the patient was satisfied and declined another surgical operation. Several months later she became pregnant, and when the pregnancy had advanced to about four and one half months she consulted an obstetrician about the appearance of an abnormal mass in the region of the surgical scar on her right breast. This nodosity had reappeared toward the end of the third month of the pregnancy. The mass increased in size, but resumption of the roentgen therapy was not advised in the course of the pregnancy. At the end of the pregnancy the size of the tumor had nearly doubled. The delivery was normal, but when eighteen days later the woman entered the cancer institute for renewed roentgen treatment of the mammary tumor it was found that the tumor had practically doubled since the day following the delivery. Moreover, in spite of intense roentgen therapy the neoplasm grew further and the woman was urged to undergo an operation, to which she consented. The authors describe and discuss the histologic aspects of the surgical specimen and direct attention to possible connections between tumor growth on the one hand and pregnancy and delivery on the other.

Inhibiting Action of Androgen on Induced Cancers.—Flaks and Ber say that in previous investigations they found that if large doses of androgen are injected into mice that are treated with methylcholanthrene the androgen acts as a prophylactic against this cancerigenic substance. In the work reported here they repeated their tests on mice with some modifications, using methylcholanthrene and benzypyrine as cancerigenic substances. They describe tests on several groups of animals and record the results in tables. It was found that the injection of large doses of testosterone propionate before and after the treatment with benzypyrine exerts an inhibiting action on the formation of cancers of the skin. However, this prophylactic effect persists for only a certain time after the injections. In the group of mice having received the prophylactic treatment with the androgen, cancers appeared two months later than in the control animals; to be sure, they were also fewer in number than was the case in the controls.

Presse Médicale, Paris

47: 393-420 (March 15) 1939

*Dangers in Introduction of Radioactive Substances into Organism. S. Laborde.—p. 393.
Asepsis of Operating Rooms. F. Masmonteil.—p. 394.

Dangers in Introduction of Radioactive Substances.—Laborde points out that the risks involved in the introduction of radioactive substances into the organism are of various forms, but in this report he disregards the affinity for the osseous system as well as for the reticulo-endothelial system and gives his attention to the cutaneous complications. He maintains that such complications are more numerous than the literature on the subject indicates. The majority are provoked by the injection of the salts of mesothorium and are ascribed to the local retention of the substance, which has an extremely long life. It has been said that thorium X is less dangerous by reason of its much shorter life. However, the author maintains that it is an error to believe that thorium X does not provoke harmful biologic effects. He relates the clinical history of a woman who in 1927, on account of vertebral rheumatism, was given a series of injections of thorium X. The injections were given into the gluteal region at weekly intervals and the doses administered were 50, 100, 150, 200, 250 and 300 micrograms; that is, about 1 mg. of active substance. Although this dose is rather high, it is frequently administered in painful disorders. In 1937, that is, ten years after the injections, a deep-seated induration, which had persisted since the end of the treatment, became red and sensitive and opened spontaneously to discharge a white material. Cicatrization was effected gradually, but a fistula remained which still persisted in March 1938, when the author examined the woman for the first time. Roentgenoscopy disclosed a considerable amount of opaque substance in the gluteal region. The patient was pale and complained of extreme fatigue. Examination of the blood disclosed a mild anemia but a considerable leukopenia. Because it was feared that the cutaneous lesion might increase and perhaps become malignant, it was decided to extirpate the damaged skin and a considerable portion of the adipose tissue, which inclosed a hard, white substance. The removed tissue was subjected to chemical, spectrographic and microscopic examination and to radioactive analysis. These studies demonstrated that the soluble radioactive salts, chosen because of their diffusion in the organism and of their rapid elimination, give only an illusory security; the persistence of a certain quantity of the product, no matter how small, suffices to elicit tissular disorders. The anemia observed in the reported case can be explained not only by the probable fixation of radioactive salts in the reticulo-endothelial system but also by the constant liberation (for a period of ten years) of thoron and radon. The radioactive analysis disclosed that the injected product was not pure thorium X but contained mesothorium and radium. It is difficult to obtain a pure preparation of thorium X and the author thinks that the inequality of the results and the fact that the complications vary is due to the fact that it is difficult to obtain uniform products.

47: 453-468 (March 25) 1939

*Human Brucellosis and Abortion: Isolation of Brucella Melitensis in Blood of Mother, in Viscera and Blood of Fetus, in Placenta and Lochia. M. Janbon and J. Caderas de Kerleau.—p. 453.
"Arabian Bronchitis": Manifestation of Sclerous Pulmonary Tuberculosis in Chronic Syphilitic Patients. A. Lévi-Valensi.—p. 455.
True Hermaphroditism. R. Raynaud, F. G. Marill and R. Xicluna.—p. 459.
De Abreu's Method for Diagnosis of Tuberculosis. L. Sayé and N. L. Caubarrère.—p. 462.
Rectosigmoid Tumors and Their Treatment. J. Duval.—p. 465.

Brucellosis in Human Beings.—Janbon and Caderas de Kerleau report what they believe to be the first clinically authenticated case of human miscarriage due to Brucella melitensis. The patient was a woman aged 34, employed in a slaughterhouse, who had had nine previous pregnancies and seven healthy children living. She was admitted to the Pasteur clinic April 5 and suffered a miscarriage April 26 in the third month of her pregnancy. Analysis revealed Brucella melitensis in the blood of the mother and in the viscera, heart blood and stomach contents of the fetus. It is thus proved that Brucella melitensis is capable of inducing miscarriage in human beings. Previous reports of miscarriages due to Brucella turned out to have been caused by Brucella abortus.

Revue Méd.-Chir. des Maladies du Foie, Paris

14: 81-160 (March-April) 1939

Developmental Disorders in Splenic Pathology. M. Sendrail, J. Lasserre and O. Robin-Bourdon.—p. 84.
*Ureagenetic Function of Liver in Diabetes Mellitus. Wassilevsky.—p. 101.
Alkaloids of Phenanthrenic Group: Methylization of Nucleus of Morphine; Action on Biliary Secretion. G. Baltacéano and C. Vasiliu.—p. 123.

Ureagenetic Function of Liver in Diabetes Mellitus.—After pointing out that diabetes mellitus occurs in several forms, Wassilevsky says that, besides the pancreas, the liver plays an important part in the pathogenesis of diabetes mellitus. He cites investigators who studied hepatic involvement in patients with diabetes mellitus and also mentions various tests that have been devised to study the hepatic functions, particularly the urea-

genetic function, and then he describes his own studies on this function. He withdraws a specimen of blood from the cubital vein of the fasting patient and determines the ammonia content of the blood. Then, without removing the needle from the vein, he injects a solution of aminoacetic acid and again takes blood specimens after intervals of fifteen, twenty, forty-five and sixty minutes. In these specimens he determines the urea and the ammonia contents. He describes his experiences with this test and stresses the following characteristics: (1) its absolute specificity with regard to the liver; (2) the existence of close physiologic ties between the ureagenetic reaction and the activity of the hepatic parenchyma; (3) the possibility to make incontestable deductions from the observations on the venous blood; (4) the sufficient stability of the urea as an indicator in the functional test, and (5) the extreme simplicity of the test. In the mild cases of diabetes the ureagenetic reaction is completely preserved, although in some cases it is slightly retarded. In the cases of pure diabetes there is a complete dependence between the condition of the patient, the course of his diabetic disorder and the ureagenetic reaction; that is, as the general condition of the patient improves, the urea content (after its administration) rises, whereas as it becomes worse it decreases. In the cases of diabetes that are complicated or accompanied by other diseases, particularly those of a neurologic nature, a considerable ureagenesis is observed. The explanation of this phenomenon requires intricate studies because of the involvement of the sympathetic nervous system. The employment of the aforementioned test in the clinical study of diabetes will aid in the understanding of the pathogenesis of each individual case and will throw light especially on the role of the liver in the pathogenesis, and thus it will aid in selecting the best method of treatment.

Riforma Medica, Naples

55: 317-356 (March 4) 1939. Partial Index

Modern Conceptions on Pathogenesis and Treatment of So-Called Hypertrophy of Prostate. A. Bergamini.—p. 319.
*Changes and Antigenic Power of Cerebrospinal Fluid in Subacute Venereal Lymphogranuloma. C. Pisacane and R. Lopresti.—p. 332.

Cerebrospinal Fluid in Venereal Lymphogranuloma.—Pisacane and Lopresti examined the cerebrospinal fluid of eight patients suffering from subacute forms of venereal lymphogranuloma. The investigations consisted in making morphologic, serologic and chemical examinations of the fluid and in using the fluid as an antigen in performing the Frei test in another group of patients who were suffering from the disease. Two patients in the group had had sufficient treatment and were considered as recovered. The cerebrospinal fluid of these two patients was normal. The Frei tests which were made with the fluid of these patients gave constantly negative results. The cerebrospinal fluid of the remaining six patients was changed. There was hyperalbuminosis in six cases, lymphocytosis in five and positive results of the Nonne and Pandy test in three and of the flocculation mastic colloidal test in all six. The colloidal response was of the syphilitic paralytic and mixed types in two cases for each type. The Frei test was done in several patients who were suffering from the disease with the cerebrospinal fluid of every one of the patients but one, who had syphilis. The test gave typical strong positive results in all cases in which the fluid of one of three patients was used and negative results when the cerebrospinal fluid used was from either of the other two patients in the group. The different response of fluids which had the same alterations showed that the fluid does not produce good antigens in all cases. The same happens when the pus of poradenitic ganglions is used as an antigen. Therefore the author concludes that the virus of venereal lymphogranuloma has a special affinity for the nervous tissues and that the disease is organic general rather than local.

Rivista di Chirurgia, Naples

5: 1-80 (Jan.-Feb.) 1939. Partial Index

*Testicular Hormone in Hypertrophy of Prostate. P. Bruni.—p. 8.
Fracture of Zygoma Cured by Direct Skeletal Traction with Screw. C. Giorgi.—p. 34.

Androgen in Hypertrophy of Prostate.—Bruni discusses the role of endocrine disorders in the pathogenesis of hypertrophy of the prostate as well as the therapeutic value of androgenic substances. The author resorted to the androgen treatment in a group of fifteen patients who were placed in three different groups according to the evolutional phase (early, chronic and subacute) of the condition. All the patients had intramuscular injections of androgen (synthetic testosterone propionate in doses of from 0.005 to 0.02 Gm. for each injection up to a total dose of from 0.07 to 0.235 Gm. The injections were administered every other day. Patients in whom the disease had lasted for less than one year and had only a moderate residue of urine had the androgen treatment alone, whereas those who were suffering from the chronic and subacute forms of the condition had a combined androgen and local treatment (catheterism and vesical lavages). The treatment induced rapid improvement up to complete disappearance of the subjective symptoms in patients in the early phase of the disease. The amount of residual urine was rapidly reduced. Azotemia and the results of the phenolsulfonphthalein test became normal and the general condition of the patients improved. The size of the adenoma did not change. The satisfactory results have lasted up to the present (four months after discontinuation of the treatment, with the exception that the residual urine slightly increased, never reaching, however, the figures that existed before administration of the treatment). In the second and third groups (those in whom the disease had lasted for more than one year and had considerable retention of urine) the results were of about the same order but much less satisfactory than those of the first group. The author therefore concludes that androgen administered to man is harmless. The general condition of the patients is improved by the treatment, which however does not modify the size of the adenoma. The treatment arrests the development of hypertrophy when it is administered early in the evolution of the disease but does not cure hypertrophy if it is already established. The treatment is indicated early in the development of the disease and as a palliative agent in nonoperable cases, when the operation is refused, in the preparation of the patients for a proper surgical operation and in the prevention of recurrences, after endoscopic resection.

Beiträge zur klinischen Chirurgie, Berlin

169: 177-336 (March 29) 1939

*Failures in Treatment of Melanoma. K. G. Lertas.—p. 177.
*Roentgen Sarcoma. P. Deuticke.—p. 214.
Reasons for Errors in Diagnosis of Bone Tumors. H. Hellner.—p. 240.
Contributions to Knowledge of Echinococcus of Pancreas. M. Paraskevas.—p. 265.
Paget's and Recklinghausen's Bone Disease. J. Husslein.—p. 276.
Blood Stasis in Upper Extremities. K.-E. Herlyn.—p. 299.

Failures in Treatment of Melanoma.—On the basis of eight cases of melanoma, Lertas analyzes the results of the various methods of treatment of this disease and the reasons for failures. The primary tumor may be so small as to escape observation and the clinical symptoms may be due to a metastasis. Serum diagnosis of a malignant condition is not dependable. Neither the clinical picture nor the histologic character of the tumor permits predicting the possible course. The advocates of operative intervention maintain that the operation is capable of radically removing the original lesion and of obtaining at least a temporary cure. Microscopic examination, however, usually demonstrates that the malignant process is deeper and wider than is perceived by the unaided eye. Microscopic study in one of the author's cases revealed the existence of an isolated metastatic tumor not far from the original growth. The analysis of the results of surgical intervention revealed that, while the majority of the cases metastasize early, there are cases with a slow course surviving decades. The results obtained with melanocarcinomas are not better than those obtained with melanosarcomas. Local recurrence is rather rare for both forms. Lymph node recurrence after removal is seen exclusively in cases of melanocarcinoma. The melanocarcinomas are less refractive to irradiation than the sarcomas, giving cures of from three to five years with irradiation, whereas of the seven cases of melanosarcoma treated by irradiation, metastases and death occurred in six. High voltage roentgen therapy appears at times to act as an activator of the growth whether applied as an independent therapeutic measure or following operative removal. The opponents of operative intervention base their argument not so much on the bad postoperative results as on the fact that many melanomas, when untreated, remain station-

ary for a long time. Adherents of surgical intervention point to the removal of the original tumor and some prolongation of life; adherents of roentgen and radium irradiation report that most of the patients obtained from two to three year cures. The author concludes that the failures of the various therapeutic measures depend not so much on the kind of therapy as on the individual character of the tumor. Neither the clinical picture nor the histologic appearance of the melanoma furnishes definite information as to its malignancy or possibility of metastasis. Metastases occur as a rule but not necessarily in every case. The author does not subscribe to the opinion that every form of treatment, particularly surgical, acts as a stimulus for the formation of metastases.

Roentgen Sarcoma.—Deuticke reports three cases of sarcoma apparently developing as the result of excessive irradiation with roentgen rays and radium. One case developed ten years after massive irradiation of a surgically removed dural endothelioma, one after excessive irradiation of a lupus vulgaris lesion, and one sixteen years after intensive radium treatment of a skin damaged by roentgen therapy for lupus. From the study of the literature and of his own cases the author concludes that tuberculosis per se does not give rise to sarcoma. Where sarcoma developed in a tuberculous lesion the latter was almost invariably subjected to excessive irradiation. The incidence of sarcoma developing in a previously tuberculous tissue which was irradiated as contrasted with sarcoma developing in tuberculous tissue that was not irradiated is as 45:10. The relationship of irradiation sarcoma on a tuberculous basis to irradiation sarcoma without a tuberculous basis is as 45:11. The combination of tuberculosis and radiation seems to favor the development of sarcoma. The fact that sarcoma appears long after the original tuberculous lesion has healed, as well as the fact that tuberculous lesions are no longer found in the vicinity of the tumor, suggests that it is the prolonged irritation of the skin that is the contributing factor rather than the specific effect of tuberculosis. Sarcoma may develop in an unspecific granulomatous tissue or from an ulcer. Chronic lesions other than tuberculosis may lead to development of a sarcoma. In all these cases, however, sarcoma is a late result of irradiation. The latent period varies from five to twenty years. The sarcomatous tumors are malignant and have a bad prognosis. Histologically they are spindle-cell sarcomas, fibrosarcomas or polymorphonuclear cell sarcomas frequently with a myxomatous transformation. The rare occurrence of the lesion does not constitute an argument against radiation therapy in cutaneous tuberculosis; however, it speaks for the necessity of observing certain precautions.

Deutsches Archiv für klinische Medizin, Berlin

183: 475-660 (March 22) 1939. Partial Index

Chronic Course of Benign Lymphocytic Meningitis. H. Vogt.—p. 501.
Blood Perfusion of Kidney in Experimental Diffuse Glomerular Nephritis. H. Sarre.—p. 515.
Question of Pathogenesis of Hemolytic Icterus. G. Lepel.—p. 552.
*New Observations on Action of A. T. 10 (Dihydrotachysterol). J. Jacobi and F. Tigges.—p. 558.
Normal Quantitative and Qualitative Thrombocytic Blood Picture During Senility. J. Arneth.—p. 564.
Investigations on Lipoid Complex in Organisms Under Influence of Digitalis. K. Westphal and Käte Koch.—p. 569.
Familial Elliptocytosis as Inheritable Anomaly of Erythrocytes. S. J. Leitner.—p. 607.

Action of Dihydrotachysterol.—Jacobi and Tigges were able to observe the action of dihydrotachysterol (A. T. 10) in eight patients with various disorders, some of which were accompanied by hypocalcemia. In a patient in whom tetany and hypocalcemia developed following the surgical removal of an exophthalmic goiter, the symptoms of tetany and of hypocalcemia could be permanently counteracted (observation for two and one half years) by treatment with dihydrotachysterol (from 75 to 180 drops) per month. In a case of sprue with severe hypocalcemia but without symptoms of tetany it was possible to normalize the calcium content with relatively small doses of dihydrotachysterol. However, in a patient with excretory pancreatic insufficiency, colitis and megacolon, in whom signs of tetany and hypocalcemia existed simultaneously, even large doses of dihydrotachysterol did not influence the symptoms of tetany. The authors suggest that a defective resorption might be responsible for this failure. In a case of idiopathic tetany with normal calcium content, which had persisted for fourteen years, small doses of dihydrotachysterol made the signs of tetany disappear, while the calcium content remained unchanged. In a patient with idiopathic tetany and hypocalcemia, relatively small doses of dihydrotachysterol were sufficient to counteract the symptoms of tetany and normalize the calcium content. Hypocalcemia in the absence of tetany, in a child with nephrosis, did not yield to comparatively large doses of dihydrotachysterol. An attempt to counteract the symptoms of osteitis fibrosa cystica by medication with dihydrotachysterol was unsuccessful; the normal calcium content was not increased even by large doses. In a woman who had tolerated unusually large doses for a period of two years without signs of intoxication and without increase in the calcium content, the medication with dihydrotachysterol was discontinued without clinical results and without influence on the calcium content. The authors conclude from these observations that contrary to the generally accepted opinion hypocalcemia is not necessarily influenced by dihydrotachysterol. Tetany and hypocalcemia may develop independently and may also react independently to dihydrotachysterol. Not all cases of hypocalcemia respond to dihydrotachysterol, and a normal calcium content remains uninfluenced even by large doses of this preparation.

Fortschritte a. d. Gebiete der Röntgenstrahlen, Leipzig

59: 193-296 (March) 1939

*Short Wave Therapy of Pulmonary Empyema. W. Dieker.—p. 193.
Sequestration of Anthracotic and Calcified Lymphatic Glands of Bifurcation with Fistula of the Bronchus and Esophagus. F. Gagelmann.—p. 217.
Use of Depth Layer X-Rays in Evaluation and Treatment of Silicosis and Silicotuberculosis. W. Silberkuhl and W. Müller.—p. 233.
Critical Observations Regarding Kymography of the Heart. P. Stumpf. p. 242.
Further Roentgenologic Studies of Volume of the Heart. H. Ludwig. —p. 250.
Roentgenologic Investigation of the Larynx. E. Lindgren.—p. 273.
Isolated and Mobile Atelectasis in Bronchial Carcinoma. K. Heckmann. —p. 286.

Short Wave Therapy in Pulmonary Empyema.—Dieker reports the results of short wave treatment in thirty-two unselected cases of empyema of the lung. Five of the thirty-two patients are excluded from final consideration because short wave treatment was employed as the last desperate resort and did not exceed four treatments. Of the remaining twenty-seven, nineteen recovered, three improved, two had to be operated on and recovered, two died and one was still under treatment. The conjectured duration of illness before treatment ranged from five to 110 days; the number of treatments given, exclusive of the five patients who died, from twenty-five to ninety; the duration of illness after the treatment lasted from thirty-four to 197 days. Many of these patients were extremely ill, creating doubt as to whether surgery ought not to be applied. Some patients were past surgical help, but the short wave treatments were so favorable that surgical intervention was no longer considered. Most of the patients felt better after the first treatment and showed progressive increase of appetite and weight and decrease of fever and fetid sputum. Simultaneous pleural empyema rendered short wave treatment of empyema of the lung more difficult. The author used the apparatus of Siemens with a 6 meter wavelength and, preferably, the glass electrodes indicated by Schliephake. On patients who could be treated only in bed, rubber electrodes were used, together with layers of perforated felt pads. Daily treatments lasting from five to fifteen or twenty minutes were administered. The determining factor for release was the actual condition of the lung as revealed by roentgenograms. Long-continued treatments caused no injury. The age of the patients (from 18 to 65) was no obstacle to the treatment; neither was the size or site of the empyema. Empyemas larger than a man's fist were successfully treated. Multiple and bilateral empyemas, those of various etiology (except when secondary to bronchiectasis) were successfully treated. Defective delimitation of the empyema, transition into gangrene, pyrexia or the patient's general condition were not allowed to delay treatment. The author concludes that short wave therapy in pulmonary empyema is the least violent of all treatments and, with proper selection of clinical material,

promises better results. It can be applied to empyemas of any size or site, to multiple and bilateral empyemas, to empyemas no matter what their etiology, to empyemas that show transition to gangrene, to patients with pyrexia, defective circulation and generally poor conditions and to cases of pleural adhesion of recent origin with promise of improvement and recovery, if treatments are continued for a long time. Treatments, the author says, should not be delayed until delimitation of the empyema has formed but begun as early as possible and be continued until the last vestige of infection has disappeared. Simultaneous pleural empyema makes short wave therapy more difficult and should be previously drained (combined treatment). The author's results are amply confirmed by the compilation of the results obtained by others through short wave therapy. Of 106 patients, eighty-eight recovered, seven improved and eleven died. Statistics for purely conservative treatment of empyema of the lung (hospital, medicines, no short waves) show a mortality rate as high as 75 per cent. The more favorable mortality rate in surgical operations still shows the high average of from 16 to 34 per cent in the experience of experts in surgery of the thorax and is higher in the practice of surgeons who are not chest specialists.

Wiener klinische Wochenschrift, Vienna

52: 249-251 (March 17) 1939. Partial Index

Classification and Incidence of Various Forms of Hypertension. E. Baráth.—p. 249.
Significance of Anamnesis for Gynecologic Diagnosis. F. Bernhart.—p. 251.
Peculiar Case of Marie-Bamberger Disease. R. Barta.—p. 254.
*Pneumoroentgenography of Kidney. B. Bibus.—p. 256.

Pneumoroentgenography of Kidney.—Bibus shows that, although it is generally possible to diagnose renal disorders by means of cystoscopy or by ascending or descending pyelography, there are nevertheless cases in which it is either impossible to employ these methods or they do not produce a satisfactory result. This is the case especially when the pathologic process spreads over the convexity of the kidney and does not influence the hollow spaces. This gap in the methods of urologic examination was filled by Rosenstein, who introduced pneumoroentgenography. After oxygen has been introduced into the retroperitoneal space, the surface of the kidney becomes visible in the roentgenogram. Pneumoroentgenography is especially helpful in tumors of the kidney. The anteroposterior exposure should be followed always by a lateral one, so as not to overlook tumors on the anterior and posterior surfaces of the kidney. In many instances it is advisable to combine the pneumoroentgenography with a retrogressive pyelography. Occasionally the benign malignant character of a tumor may be deduced from the pneumoroentgenogram. A sharp, smooth outline suggests a benign tumor, perhaps a cyst or an adenoma. A humpy or an indistinct contour indicates the possibility of a malignant growth. The second group of renal disorders in which pneumoroentgenography is indicated are the renal deformities, such as hypoplasia, horseshoe kidney and cystic kidney. In acquired changes in the position of the kidney, for instance in nephroptosis or floating kidney, pneumoroentgenography is likewise helpful. It can be employed in the visualization of extrarenal processes especially in pathologic processes of the adrenals. The author advises against pneumoroentgenography in the large group of inflammatory diseases of the kidney, not only because it has become superfluous since the introduction of intravenous pyelography but also because it may lead to dissemination of the infection. Perinephric adhesions, however, are an exception, for reports in the literature indicate that in these cases the method is without danger and provides valuable information. The author emphasizes that he never introduces more than 400 cc. of oxygen and that with this quantity he obtains clear pictures. Finally he discusses the dangers of the method. He thinks that mild complications, such as emphysema of the subcutaneous tissue, involve no great danger. Injuries of the diaphragm and of the pleura are more unpleasant than dangerous, because when the characteristic symptoms appear the insufflation can be interrupted, before damage has been done. Oxygen embolism, however, should not be underestimated; although it rarely causes fatalities, it may lead to severe collapse. The author concludes that, although the method is not as dangerous as has been asserted by some, it nevertheless involves a certain risk and should be employed only in specially selected cases and after other methods have failed. The only method with which pneumoroentgenography might be in competition is exploratory exposure of the kidney; however, the latter intervention probably involves a greater risk and pneumoroentgenography might therefore be preferred to it.

Zeitschrift für Krebsforschung, Berlin

48: 283-390 (Feb. 21) 1939. Partial Index

Experimental Investigations on Causes of Cancer. G. Domagk.—p. 283.
Question of Retrogressive Dissemination of Cancer by Way of Lymph Channels in Case of Closure of Thoracic Duct. R. A. Obiditsch.—p. 298.
Investigations on Primary Tumor and Metastases in Adenocarcinoma. R. Böhmig and W. Schröder.—p. 306.
*Changes of Ovarian Epithelium After Treatment with Tar and Gonadotropic Substance: Hormonal Pathogenesis of Cancer. K. Katz.—p. 318.
Carcinoma of Prostate. L. Stehr.—p. 330.
Sarcoma of Testicular Coverings. H.-W. Helmbold.—p. 384.

Ovarian Epithelium After Treatment with Tar and Gonadotropic Substance.—Katz describes microscopic observations on the ovaries and the uterus of white mice, some of which were made on senile animals and some in the course of prolonged treatment with gonadotropic substance and also with the combination of gonadotropic substance and tar. Summarizing his observations, he says that in senile animals the ovarian epithelium is transformed into an erect cylindric epithelium. The same change can be produced by prolonged treatment with gonadotropic substance. However, the author gained the impression that whereas in senile mice the transformation of the epithelium takes place only after the ovarian function has become completely extinct, in mice that have been treated with gonadotropic substance the change is observed while the sexual cycle still persists. It is of interest that some regions of the surface epithelium, namely those covering the corpus luteum, do not react to the gonadotropic substance in this manner. From the fact that the same epithelial transformations take place in senility and after treatment with gonadotropic substance, the author concludes that the reaction of gonadotropic substance plays a part in the senile changes. If the treatment with gonadotropic substance is continued for a long time, squamocellular metaplasias may develop in the uterus but not in the ovaries. The combined use of gonadotropic substance and tar produces the same changes in the ovary and uterus as does the exclusive administration of gonadotropic substance; however, squamocellular metaplasias are now observed also in the ovarian epithelium. If painting with tar is used exclusively, metaplasia is observed in the ovaries but not in the uterus. From this it is concluded that the tar contains an ovariotropic substance. The biologic action of this substance indicates that it differs from estrogenic-gonadotropic substance as well as from 1,2 benzpyrine.

Acta Medica URSS, Moscow

1: 463-682 (Nos. 3-4) 1938. Partial Index

Mechanism of Therapeutic Action of Blood Transfusion in Infectious Diseases. A. Bogomolets.—p. 463.
Problem of Protein Compatibility in Blood Transfusion. Nina Medvédeva.—p. 467.
Theory and Practice of Transfusing Blood from Animals into Human Beings. J. O. Halpern.—p. 476.
*Transfusion of Heterogenous Blood for Gastroduodenal Ulceration. A. Bagdassarov, C. German, G. Gutson and M. Zoubelevitch.—p. 497.
Effect of Heteroserum and Isoserum on Organism. O. Hartoch and M. Kanevskaja.—p. 508.
*Transplantation of Hypophysis of a Cadaver into Midgets. N. A. Bogoraz.—p. 521.

Goat's Blood Transfusion in Gastroduodenal Ulcer.—Bagdassarov and his associates made repeated transfusions of the whole goat's blood into eighty-two patients with gastroduodenal ulcerative disease. From 3 to 12 cc. of the blood (on an average from 3 to 5 cc.) was introduced first at intervals of from two to four days and later at intervals of from five to seven days. A follow-up of thirty-eight cases for periods of from one and one half to two and one half years demonstrated a permanent cure in eighteen, an improvement in thirteen and recurrences with periodic invalidism in seven. Healing by scar formation was demonstrated in a number of cases of roentgen-

ography. The reactions following the transfusion present three phases: In the first phase, in which the duration is from fifteen to twenty-five minutes, there are noted dyspnea, cough, hyperemia of the face, backache and acute exacerbation of the local pain. The second phase sets in from one and one half to four hours after the transfusion and lasts from fifteen to eighteen hours. It is characterized by chills and high fever. The third phase makes its appearance in the form of hives or herpes several days later. The more severe reactions follow the second infusion. In most of the cases there were mild reactions; 8 per cent exhibited severe shock, at times with vomiting and pain and a sense of constriction in the region of the heart. Among atypical reactions were observed two instances of Quincke's edema lasting seven and twenty-two hours each. One patient developed albuminuria and hematuria. All the patients exhibited a transient leukopenia. In cases of shock reaction the phenomenon of fibrinolysis or liquefaction of the blood clot, as well as the hemophilic phenomenon or retarded clotting, was noted. Alterations in the blood albumin present two phases. In the first there is a diminution of the labile coarsely dispersible fractions, in the second a tendency to the increase in the more stable, finely dispersible fractions. Analysis of the biochemical reactions suggests that the posttransfusion reaction is of the nature of hemoclastic shock in the sense of Widal, resulting from profound alteration in the electrocolloidal balance attending on the interaction of the albuminous micelles of the donor and the recipient. The reason for healing and scar formation of ulcers is to be found in the stimulating effect of colloidoclasis with formation of products of breaking down of the albumin by the intracellular ferments. Nephritis, active tuberculosis, hypertension, febrile states, bronchial asthma, heart lesions and certain allergic states constitute absolute contraindications to the transfusion of heterotransfusion. Among the relative contraindications the authors mention old age, generalized arteriosclerosis and hysteroneurasthenic reactions.

Transplantation of Hypophysis into Midgets.—Bogoraz points out that the failure of the many attempts at transplanting viscera was believed to be due to the necrosis or absorption of the transplant. The question of whether, in a successful attempt, the transplant acted as a substitute for the damaged endocrine gland or merely as an activator of the functions of the remnants of the original gland has not been answered. The author describes his own method of transplanting a hypophysis removed from a cadaver into midgets with a hypoplasia or a lesion of the pituitary. The hypophysis is removed from tall healthy persons between the ages of 15 and 35 years from three to six hours after death from acute trauma. The gland is removed together with the corresponding segments of the two internal carotid arteries. A segment of the brachial artery of the patient is dissected free and is compressed between two clamps. The brachial artery is incised at this point and the transplant is sutured to it. The peripheral end of the internal carotid is thus compressed between the clamps compressing the brachial artery. The incised brachial artery is now sutured to the carotid with fine silk sutures. The peripheral clamp is opened first and blood is permitted to enter the transplanted artery and the hypophysis. The central clamp is next removed, after which the transplant is seen to pulsate and take on a pinkish coloration. The author has performed thirteen transplants with this method in five male and six female subjects. Their statures were between 94.4 and 139 cm., and their ages between 9 and 21 years. The greater number of these exhibited sexual hypoplasia and obesity. The transplants took in all of them and effected an increase in growth of from 2 to 15.6 cm. in the period of observation for from one and one half to twenty-five months. Stimulation of the growth was clearly demonstrated in the cases in which the author had the opportunity of observing the midgets for as long as one and one half years before the operation, during which period they did not grow but three weeks after the operation exhibited an increase in height amounting to several centimeters. This increase in height spoke in favor of the effect of the transplant on the growth. Of the eleven patients, only one attained the size of a man of low stature; the rest, although improved, were still midgets. With the increase in growth there was noted a mild stimulating effect on the sexual organs and the libido.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

83: 1107-1198 (March 11) 1939

Difficulties During Delivery Caused by Congenital Deformities of Fetus. J. C. Beker.—p. 1108.
*Morphologic and Experimental Contribution to Pathogenesis of Hepatic Changes in Exophthalmic Goiter. J. Zeldenrust and C. C. van Beek. —p. 1114.
Falling-Off of Stump of Umbilical Cord. R. T. Meurer Jr.—p. 1125.
Treatment of Schizophrenia with Insulin and Metrazol: Results After Two Years. C. P. J. Stotijn.—p. 1129.
Relations Between Hypertrophy and Cancer of Prostate. I. Boerema. —p. 1136.

Hepatic Changes in Exophthalmic Goiter.—Pathologic investigations in sixteen cases of exophthalmic goiter and the result of animal experiments convinced Zeldenrust and van Beek that thyrotoxicosis causes toxic damage of the liver. This impairment manifests itself in a noticeable decrease in the glycogen content and in an atrophy of the hepatic cells, which may result in a considerable decrease in the size of the liver. Moreover, degenerative changes may be seen in the hepatic cells. Occasionally the toxic action is so severe that necrosis of the hepatic tissues results; this may be so extensive that the picture is that of acute yellow atrophy of the liver. In chronic poisoning with thyroxine, in which bacteriotoxic influences could be excluded, the authors twice obtained extensive necrosis of the liver, which corresponded with the initial stage of acute yellow atrophy. Small foci of necrosis were found regularly. In the marginal zones of these experimental necroses, as in the liver of subjects with thyrotoxicosis, a slight inflammatory reaction could be seen. Congestive induration is also frequently observed in the liver of patients with thyrotoxicosis. The irregular distribution of blood in the livers of these patients may be the result of degenerative swelling of the cells and of atrophy. Moreover, cardiac insufficiency often causes irregular blood perfusion of the liver. No conclusive evidence could be found for the assumption that the hepatic changes in thyrotoxicosis are the result of a serous hepatitis.

Upsala Läkareförenings Förhandlinger, Uppsala

44: 219-318 (Feb. 15) 1939

Method of Examination and Comparative Chemical Analyses of Teeth of Man, Monkey, Dog and Swine. G. Bremer.—p. 219.
Relation of Number of Neurites in Roots of Spinal Nerves During Postfetal Life of Domestic Cat. K. Kjellgren.—p. 247.
Case of Encephalitis After Chickenpox with Ophthalmoplegia Interna as Sequela. B. Walquist.—p. 257.
Determination of p_H of Juice Pressed from Frog Muscle in Rest and After Exhaustion. N. Rundqvist.—p. 263.
Continued Investigations on Effect of Spasms Due to Metrazol on Brain and Heart of Rabbit. P. Nyberg.—p. 267.
Case of Congenital Pneumonia with Empyema. G. Edgren.—p. 277.
*So-Called Spontaneous Perirenal Hematoma. R. Kaijser.—p. 283.
Two Rare Tumors of Sympathetic Nerve. N. Gellerstedt and N. Thyresson.—p. 303.
Method for Preparation of Specimens of Blood Which Afford Equal Distribution of Elements of Blood Corpuscles: Preliminary Report. G. Beander.—317.

Spontaneous Perirenal Hematomas.—Kaijser emphasizes that in all cases of perirenal hematomas originating from the kidney in which something is known about the cause of the bleeding there is either reduced coagulation ability of the blood or there are anatomic changes in the small or moderately large vessels of the kidney. Perirenal hemorrhages in cases with infarcts appear almost exclusively in septic infarcts, in which there is the greatest possibility of a direct lesion of the small or moderately large arteries. This, he says, is evidence that the anatomic changes are present and that hemorrhages do not occur by diapedesis. In many cases in which the cause of the bleeding cannot be established, small aneurysms or other changes may have been overlooked; in others the hemorrhage may, though less probably, depend on vasomotor disturbances. Diagnosis is based on the triad of pain in the renal region, increasing fulness in the region and signs of internal hemorrhage in the form of a considerable anemia. The importance of a specific diagnosis of the cause of the hemorrhage is stressed. A personal case and several cases from the literature are cited which show that perirenal hematomas due to septic infarcts usually appear after an acute infection, are accompanied by fever and are so characteristic that they may be considered as a definite entity which can be diagnosed in typical cases.